



OBSERVER

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Over 2,000 Attend APS 3 in DC

Record Attendance at 3rd Annual APS Convention

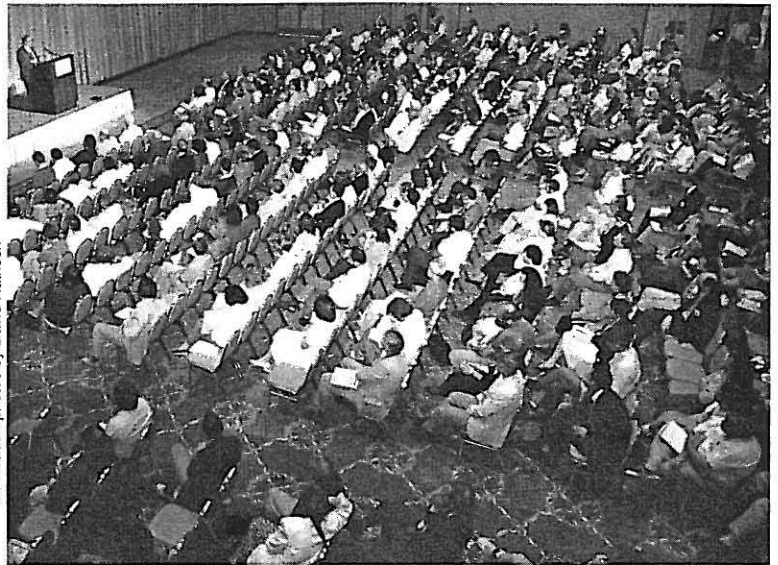
It was boom times for scientific psychology at the third annual APS Convention in Washington, DC, no matter what the nation's economic indexes are saying!

A total of 2,113 psychologists and others attended the "monumental" APS meeting in the Washington Sheraton Hotel — that's an increase of more than 60 percent over last year's 1,300 attendance and is more than twice the number at the first meeting in Alexandria, Virginia, in 1989.

The attendees constituted not just an impressive crowd, but an exceedingly active and participatory one, by any psychological standards. About one-half the attendees presented their own research at the meeting. There were nearly 200 speakers and nearly 600 posters.

Over a thousand convention goers attended Nobel laureate Herbert Simon's Keynote Speech as well as the Presidential

SEE CONVENTION
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Convention photos by David Hathcox

Audience at the Keynote Address by Nobel laureate Herbert A. Simon at the third annual APS Convention in Washington, DC.

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Current Directions Is Steadily on Course

New Editors on Board, Predict Smooth Sailing

Nothing like it now exists. Randy Gallistel and Sandra Scarr are preparing to launch a completely new type of psychology journal. The maiden issue is due in February and will compliment APS's flagship journal, *Psychological Science*.

Gallistel and Scarr have been selected as co-editors of the new APS bimonthly journal, *Current Directions in Psychological Science*, that will alert and introduce psychologists to significant developments often quite remote from

their own specialty areas but potentially of great interest or concern to them.

The journal, the second to be christened by APS, should dramatically reduce the stress and strain some psychologists have experienced trying to keep abreast of major lines of research throughout fast-growing psychological and related behavioral fields. And, it is expected that the reviews will prove very useful in introductory psychology course

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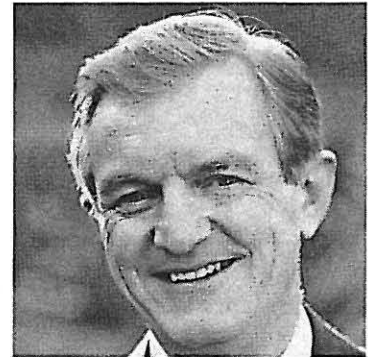
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We're Up, Up and Away!

Gordon H. Bower
President, APS



Gordon H. Bower

I'm happy to report that our third annual convention held in Washington, DC, was a resounding success. A record number of over two thousand members registered and attended the sessions of the three-day convention. And what a marvelous intellectual feast it was — with a multitude of symposia reporting cutting-edge developments in psychological science and its applications, a barrage of poster presentations of research projects, a well-attended open house/poster session featuring representatives from major governmental agencies that fund behavioral research, all topped off by major addresses by some of the noteworthy members of our Society. Attendees were rewarded by experiencing high-quality presentations regarding both academic and applied aspects of our science.

The Society owes special thanks to the APS Central Office staff, especially Convention Manager Bev Hitchins, and the Convention Program Committee who arranged this outstanding program — Jim Kalat and members Tom Nelson, James Jackson, and Dorothy Eichorn. Andy Baum and his subcommittee arranged the mammoth poster sessions. True to the APS "lean" image, they carried it off on a shoestring budget that provided no funds for them nor for the speakers. So, congratulations and thanks to that worthy crew of organizers and generous speakers! Watch for another successful convention, to be held June 20-23, 1992, in San Diego, CA. The Program Committee for that convention will consist of Thomas O. Nelson (Chair), Andy Baum, Dorothy Eichorn, and Paul Gold. Eugene Stone will chair the Posters Committee. Plan to attend and present your research to the rest of the Society by marking your calendars now.

For those of you who haven't heard, I have the distinct honor of having been elected President of our Society as of June 1991. I follow a line of very forceful and successful presidents — Charles Kiesler, Janet Spence, and James McGaugh — closely allied with the formation of APS from the embryonic Assembly for Scientific and Applied Psychology (ASAP). They were among the pioneers and founders who had a dedicated vision on how to shape the APS organization, and they had the zeal and sustaining motivation to implement that vision. As an APS Board Member at Large for the past several years, I can attest to Jim McGaugh's administrative skills in conducting Board meetings — negotiating, and fashioning consensus out of six independently minded Board members. I also admired Jim's leadership in guiding the Society and its Board, holding us steadily on course with our original goal, namely, the promotion of psychological science. The Society owes him a debt of gratitude for his dedicated work on our behalf, and we so honored him with a special certificate of recognition at the June APS Convention.

While my apprehension in taking on the presidency of APS rises when I consider the high standards of leadership set by my predecessors, it abates as I consider how far they've succeeded in navigating our Society through the early treacherous waters of forming a Society to the comparative calm of our present political and financial health.

Our founders have firmly set APS's future course in terms of our goals and orienting attitudes. In that sense, many of the "big decisions" have already been made. But one small decision I am making now is to change the practice of restricting this presidential newsletter column to the views of the one in this post. I intend to solicit a series of invited "Opinion Pieces" from members of the Society judged to have an interesting "opinion" for *Observer* readers. I'll be inviting op-ed pieces from current and past members of the APS Board, our officers, and other APS members who have interesting things to say about the scientific psychology enterprise. So, while I am not promising to bow out completely from editorializing, watch this space for Op-Ed coming attractions.

NIMH Gets New Head, Likely New Home

The National Institute of Mental Health (NIMH), a primary source of federal support for psychology research and training, is due to be transferred to the National Institutes of Health (NIH), perhaps as early as this year, pending approval by Congress. The transfer is part of a major reorganization of the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) that would change ADAMHA into a services-only organization by moving all its research and research training programs to NIH.

Currently, NIMH coexists in ADAMHA with the government's mental service delivery programs and research and services in drug and alcohol abuse. Also slated for transfer are the research functions of the National Institute on Drug

SEE ADAMHA ON PAGE 24

NSF Panel Recommends Separate Directorate, But Status Still Uncertain

NSF Director Massey to Have Final Say

Yet another voice has been added to the increasing chorus of scientific and political support for psychology's efforts to improve the status of behavioral and social science research at the National Science Foundation (NSF).

An NSF Task Force is strongly

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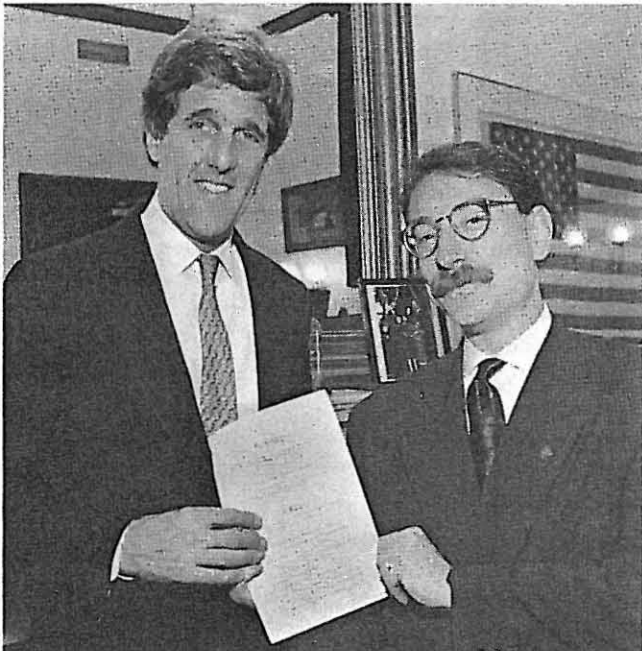


Photo by David Hathcox

Senator John F. Kerry (D-MA) (left) and APS Executive Director Alan Kraut display Senate Bill 1031, the *Behavioral and Social Sciences Directorate Act of 1991*.

Graduate Education Committee Supports Withdrawal From Designation

WASHINGTON, DC — APS's Committee on Graduate Education voted at its June meeting in Washington, DC, to support the recent decision by the Council of Graduate Departments of Psychology (COGDOP) to pull out of the National Register's designation system. The National Register began developing a listing of graduate programs of psychology about three years ago by compiling brochures and similar materials from departments.

"What began as a seemingly innocuous listing has grown progressively into a more elaborate set of criteria in order for departments of psychology to maintain their listing in the designation list," explained Marilyn Brewer, Co-chair of the APS committee. Departments have been reluctant to refuse to submit — to the Register — information about their programs for fear that their graduate students might be adversely affected," she said. "Now that COGDOP and APS have made this decision, department heads should feel reassured that it's ok to disengage from the Register's designation system," she emphasized.

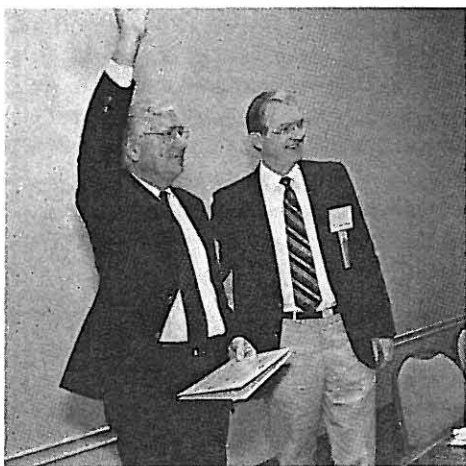
Explaining why this is so, Brewer said that "the designation system — while initially a nonofficial listing of departments providing doctoral training in psychology — has evolved into a credentialing-like system that State Boards of Psychology have been using officially to determine what departments are 'designated' as doctoral training programs and therefore who is eligible to sit for state board exams." Individual departments have become increasingly concerned that each year the National Register requests an increasing amount of information about their programs and requests assertions that various criteria are met. This restricts "academic freedom to design our curriculum," according to COGDOP chair Irwin Goldstein. This has occurred without the participation of the academic community and is the reason COGDOP has voted to withdraw from the designation system. "Also, since health programs are already accredited and are not in need of designation, its intrusiveness has had its major impact on our science programs which has been particularly upsetting to Department Chairs," he indicated. While some departments have already withdrawn, the COGDOP (and APS) position may give others the final justification for doing the same.

Other members of the APS Committee on Graduate Education who attended the June meeting include: Ursula Delworth (Co-chair), Emanuel Donchin, Edward Katkin, George Mandler, and Martin Seligman. ♦

APS Meets New President Bower Bids Farewell to McGaugh

Others Recognized at APS Business Meeting

Gordon Bower of Stanford University was inducted as president of APS in a brief ceremony marked by a handshake



Gordon Bower (*right*) assumes APS presidency as outgoing President McGaugh bids farewell.

from departing president James McGaugh and the words: "We leave this society to you in good hands. It's in great shape."

Bower told several hundred members attending the Business Meeting at the APS Convention, "I have been greatly honored and, of course, flattered by the election to be your president. I must confess I take on this job with considerable trepidation and fear. However, Jim has set a very good example for me, and . . . I am very hopeful that I will be able to carry on the traditions that have been established by the people — such as Janet Spence, Jim McGaugh, and Charles Kiesler — who preceded me in this post."

Certificate of Appreciation

Bower extolled McGaugh for his "fabulous administrative skills," adding, "You should watch him run a meeting of the board, all of the members of which are reasonably independent and cantankerous and don't listen very well, but have a lot of things that they want to say. Jim knows how to rap a gavel and get everybody to come to agreement and when it's time for a vote, he can get everybody moving along." Bower added, "I think, also, he



Convention Program Committee members (*left to right*): Dorothy Eichorn, James Kalat (Chair), Andy Baum (Poster Subcommittee Chair). *Not pictured*: Thomas O. Nelson, James Jackson.

set great standards for us and emphasized the importance of scientific values."

Bower was elected last February — by general vote of APS members — for a two-year term. His first action in office was to present McGaugh with a certificate saying, "The APS extends its heartfelt thanks to James McGaugh for his dedication and commitment as President 1989-1991."

McGaugh, in his "State of APS" comments, had noted, "Financially, we are in very good shape. Secondly, in terms of organization, we are in very good shape. I say this with a great sense of relief because it has taken a large effort on the part of a lot of folks to get us where we are. You can see the evidence of that. We can put on a nice convention. We can publish a very nice journal, thanks to Bill Estes. We can represent ourselves well on Capitol Hill and in all of the federal agencies. All of that is up and going and it is working well. I think that everybody in the society has reason to be proud that this organization got together so quickly and has been so effective in doing the things it has set out to do."

Students Recognized

McGaugh said "It is a great credit to the students in our organization that they have recognized APS's purpose and have



Carolyn Roecker, incoming President of the APS Student Caucus (*left*) presents Bonnie Eberhardt, of Pennsylvania State University, with the Outstanding Student Chapter Award.

SEE BUSINESS ON PAGE 6

William James Fellows Receive Awards

Emanuel Donchin and Martin Seligman Receive Awards for Outstanding Research Achievement

WASHINGTON, DC — Emanuel Donchin and Martin Seligman have been named William James Fellows, APS's highest recognition for outstanding contributions to psychological science.

James McGaugh made the presentations at the June APS Convention, bringing the total number of William James Fellows awarded to 81.

Donchin was cited for fostering the emergence of cognitive psychophysiology, and Seligman was cited for his scientifically rigorous and clinically compelling work on human depression and in other fields.

Donchin said on accepting his award, "In a situation like this Pat Moynihan once said he wished his parents were there because his mother would have believed it and his father would have enjoyed the rhetoric. I feel almost the same way. I feel sort of funny, in fact. I have this ingrained habit of having to find something wrong about any decision that any committee makes about anything that concerns me. But I can't find anything wrong with this decision. I have been very fortunate in my colleagues and my students and the support I've been getting at the University of Illinois — and all the wonderful funding agencies that made it possible."

The committee that decided on the awards, McGaugh noted, was headed by Lyman Porter and it worked "steadily, systematically, and intensely" to come up

with this year's choices for the honor.

Donchin's work has focused on such areas as memory updating, lie detection, response preparations, speed of information processing, resource allocation, aging,

mental prosthesis, mental chronometry and hemispheric specialization.

Donchin has been instrumental in training and shaping the careers of many of the leading scientists in the field of cognitive psychophysiology. Even students who did not always agree with Donchin's approach to any particular problem or issue have

praised the guidance and stimulating technical and intellectual environment he provides for the testing of the broadest range of ideas. He consistently emphasizes the importance of both theory and data as well as the relation between the two, according to one of his former students. That source also cites Donchin's love of knowledge and an enthusiasm that is "charming, contagious, at times maddening," and that has infected many other scientists.

The William James Fellow citation to Donchin states:

Through his published work, the students he has trained, and the conferences that he has organized, Emanuel Donchin has profoundly influenced the emergence of cognitive



Martin Seligman (*right*) receives William James Fellow award citation from President McGaugh.

psychophysiology as a subdiscipline of cognitive psychology. His research has helped to define the paradigm of cognitive psychophysiology, in which psychophysiological measures, particularly those of the event-related brain potential, are used to examine the workings of the mind. In a series of elegant studies, extending from the late 1960s to the present, he and his colleagues have identified distinct brain processes related to memory, preparation, decision-making, and other aspects of human information processing. Donchin and his colleagues have also contributed to the technical aspects of cognitive psychophysiology by devising numerous analytic techniques that enable the detection and measurement of different brain potential components.

Because of these scholarly achievements and his contributions to the development of psychology, he is recognized as a leader in psychological science.

Perhaps Martin Seligman's most important message to society at large is that depressive modes of thinking and feeling can be modified by deliberate individual effort to generate more optimis-



Emanuel Donchin (*right*) receives William James Fellow award citation from President McGaugh.

FROM PREVIOUS PAGE

tic attributional styles or attitudes and by cognitive therapy. In an address to last year's APS convention, Seligman said that "learning to say 'Yes' rather than 'No' can do wonders in fighting depression." He warned that optimism has its faults, however, as it involves usually benign distortions that you might be less inclined to accept in "an airline pilot trying to land your plane in a Los Angeles fog," for example.

Receiving the award, Seligman said, "I want to accept this not only on behalf of myself, but on behalf of a group of researchers threatened until now, at least, to be homeless in American psychology. I see many of their faces here, the psychologists who are trying to do serious scientific research on clinical phenomena. In the professional machinations of APA, the scientific clinical psychology gets lost. And I was concerned as APS got underway that again scientific clinical psychology might be too applied for it. So I am delighted, in accepting this award, in feeling that it gives me faith that there is in APS a home for the study of scientific clinical psychology."

Seligman's work has been pivotal in the reassessment of basic principles of animal learning, making it impossible for researchers to continue to ignore cognition. Thus his work can be seen as a prime mover in a broad sea change in the climate and direction of research and theory in animal learning. More than 20 years of work as an active researcher has had tremendous impact on society and the world of scientific research as well. Some of his recent work has centered on personal attributional styles that can detect "depressogenic" people before clinical symptoms set in.

Seligman's William James Fellow citation reads:

Martin E. P. Seligman's scientific career is characterized by discoveries and theories that have spanned learning, clinical, social, developmental, and biological psychology. Seligman's work shows creativity, intellectual depth, and penetrating clarity. Over the course of his career, Seligman consistently has proposed explicit, articulate, testable

theories that have had great impact in psychology. He brings important phenomena out of shadowy darkness into the bright light of scientific scrutiny.

His concept of preparedness emphasized that powerful phylogenetic factors constrain what organisms can and cannot learn. His discovery and explanation of the laboratory phenomenon of learned helplessness provided the point of departure for a vast amount of scientifically rigorous and clinically compelling work on human depression. Over the past 20 years, Seligman has made powerful conceptual and empirical contributions to the understanding of this distressing disorder. More recently, he has demonstrated the importance of optimism in achievement, sports, politics, and the functioning of the immune system. In addition to his research contributions, Seligman is an inspirational teacher to both undergraduate and graduate students. ♦

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BUSINESS FROM PAGE 4

joined with us and, indeed, represent the future of this society." To their credit alone, the students have accomplished a lot, McGaugh said, and "now they are going to direct their efforts to the issue of conversion of the student memberships into full memberships as the students get their degrees and move along. It is a very noble thing. The society depends upon that."

McGaugh introduced and noted the contributions of board and committee members, especially those now leaving the board: Kathleen Grady, Virginia O'Leary, and Duncan Luce. He presented the three new members of the executive committee: Elizabeth Capaldi, Elizabeth Loftus, and Sandra Scarr.

Convention Committee

McGaugh particularly commended James Kalat for his work as chair of the program committee that organized the convention events. And McGaugh warmly acknowledged the contributions of Janet Spence. After her term as President, Spence "stayed on in an informal but highly active capacity — now I think she has gradually developed a little confidence in us and is willing to have us go on our own," McGaugh said. "She has decided to rotate off, and we owe an enormous debt of gratitude to Janet for all she did to jump-start this organization and to keep it on the straight and narrow . . ."

APS Budget Report

Treasurer Paul Thayer reported, "We are financially sound. The auditors have declared us in very good shape. Our budget is just a little over a million dollars now with just over 12,500 members." Thayer pointed out that since the major source of APS's income is dues, it is important that members pay their dues and that prompt payment reduces expenses tremendously. Thayer also stated that while the budget is balanced, "if we are going to have additional services down the line in order to support the goals that Jim was talking about, it is going to depend upon growth, so get your friends to join, too . . ." Thayer concluded by saying that APS continues to be "lean and nice" partly due to the fact that unlike similar organizations, the budget for boards and committees is only about 2 percent of the total budget. ♦

Board of Directors Highlights

New Board Members

The APS Board of Directors recently selected social psychologist **Claude Steele** to replace board member Gordon Bower who assumed the presidency of APS at the June APS Convention. Steele was among the nine individuals voted on in the last APS presidential and board election. Steele is Professor of Psychology and Research Scientist at the University of Michigan's Institute for Social Research. "I'm looking forward to continuing the effort to support APS's establishment as the home for psychological scientists," said Steele. "It's really an exciting enterprise to be part of and it seems to be going so well. I'm happy to be on board, to learn what's going on, and to dig in. The board seems to be composed of people with the right attitude with regard to its commitment to scientific psychology," Steele exclaimed. "And I'm happy to serve on the board for those reasons."

Steele, an APS Fellow, has spent four years at the Institute for Social Research and assumes a professorship at Stanford University in the fall. His research interests include cognitive dissonance and self-affirmation theories, self-regulatory processes, and minority education.

Michela Gallagher, Professor of Psychology and Director of the Graduate Training Program in Experimental and Biological Psychology at the University of North Carolina-Chapel Hill, has been selected by the Board as Secretary. She replaces **Kathleen E. Grady** of the Massachusetts Institute of Behavioral Medicine, whose term as an officer of the Board expired this year.

Gallagher stated that "my affiliation with APS is very strong because I have always identified myself primarily as a psychologist. I am honored to serve on the Board, and, while I wasn't one of the pioneers, I am excited to be part of what is still a very pioneering-spirited organiza-

tion." Gallagher is interested in supporting efforts to maintain a strong base of student membership in APS because she is concerned that graduate students in psychology have not had the opportunity to join an organization with strong affiliation in scientific psychology. "For the 10 years that I've been supervising graduate students in neurobiological and physiological research, I know that they have not felt they had any identity with a professional organization. If my students joined a society, they joined the Psychonomic Society."

A major area of research interest to Gallagher is the neurobiology of learning and memory in the normal aging process. She currently has substantial grant funding from the National Institutes of

Health to do research in this area. [See the *Observer's* masthead on page 2 for a list of Board members.]

Other APS Board News

The APS Board will soon establish a **Fellows Evaluation Committee** to review and approve nominations for Fellow status in APS. Until June 30, 1991, members who were fellows in other relevant organizations could simply request Fellow status in APS when they joined APS, but the Board has extended this deadline until January 1, 1992. The Committee will then implement the Fellowship Status Criteria — as published in the March and May, 1991, *APS Observer* — in its review of nominations of persons for Fellow status.

The Board approved **Thomas O. Nelson**, of the University of Washington-Seattle, to chair the **APS Convention Program Committee** for the 1992 meeting in San Diego, California.

Editorial terms for APS journals have been established as four-year renewable terms. And, **APS committee terms** have been established at three years.



New Board member Michela Gallagher, University of North Carolina-Chapel Hill, Directs the Graduate Training Program in Experimental and Biological Psychology.



New Board member Claude Steele of the University of Michigan's Institute for Social Research soon moves to Stanford University.

NIMH Acting Director Brings Encouraging Words

Alan I. Leshner, Acting Director of the National Institute of Mental Health (NIMH), brought encouraging news to the APS Board at its June meeting. "I am convinced that, over time, APS will bring psychology as a science back into research. We are beginning to see some science credibility returning to psychology," he said during a luncheon address to the Board. Leshner explained that even if APS's impressive presence is not wholly responsible for these trends, there is no doubt that it is having a positive impact.

The impact is sometimes subtle, according to Leshner, and may be revealing itself in the Public Health Service (PHS) arena in which he works. As an example, he recounted a recent meeting with Assistant Secretary of Health James O. Mason, who consistently referred to the PHS research portfolio as "biomedical and behavioral science." Outside his health circles, Leshner pointed to the recent creation of the Committee on Neurological and Behavioral Sciences within the White House Office of Science and Technology Policy, President Bush's body of science advisors.

With scientific credibility being one of psychology's major problems in the public health service, this evidence of an improved image is nothing less than encouraging, Leshner stated. [See story on page 2 on the proposed transfer of NIMH into the National Institutes of Health.] ♦

A Sampling of APS Convention Addresses

Setting Goals and Getting the Best Performance

Locke Distills Results from Nearly 30 Years of Research on Human Motivation

"The question we were asked as I/O psychologists was: Why do some people perform better than others on work tasks, when we control for ability?"

Different goals might be the reason, Edwin Locke and Gary Latham hypothesized. That was some 27 years ago.

They have been working together on goal setting since that time, on and off, in about 500 studies of some 40,000 children, adults, whites, blacks, educated, uneducated, managers, males and females, on 53 field tasks and 35 laboratory tasks. Locke is now at the University of Maryland-College Park, and Latham is at the University of Toronto, and their 1990 book, *A Theory of Goal Setting and Task Performance* (Prentice-Hall) sums up much of their work.

One of their consistent findings presented in a symposium at the APS Convention is this: Goals which are specific, quantitative and challenging lead to better performance than goals which are specific but easy or not specific. An example of the latter is an instruction to the performer to "Do your best."

Locke said, "The higher the goal, the higher the performance, when other things, such as commitment and ability, are equal."

The second finding: Self-efficacy seems to combine additively with goal difficulty to produce high performance.

Self-efficacy is basically task-specific self-confidence measured quantitatively in relationship to the particular task. It's an indication of the likelihood that a person

will reach each specified level of performance and how confident the person is that he/she will reach the performance specified. "And when goals are self chosen, people who are more confident set higher goals for themselves.

"Goals also motivate people to search for suitable strategies. They don't always lead to . . . good strategies, but they lead to

searching for them," explained Locke.

"The best way to get goal commitment is simply to ask somebody to do it. Leadership is a very important way to get commitment if you do it right," Locke said.

As to feedback, Locke explained that the popular expression, "What gets measured gets done," is not quite true.

"The most important thing that we learned here is that goals alone and feedback alone are not very effective," Locke said. "Thirty or 40 studies comparing the effect on performance of goals

only or feedback only versus both together give . . . overwhelming evidence that it's best to have both together. Feedback allows you to track performance. Goals allow you to evaluate performance against a standard," he said.

"The relationship between goals and incentives is quite complex. If you offer people no money and give them a goal that's hard and even impossible, they will work very hard for it. If you offer them a bonus for a goal which probably is not reachable, they will perform worse. And if you offer people rewards for success and they fail, they're very unhappy. So what do you do? This presents somewhat of a dilemma in management practice," explained Locke.

"The Japanese have a method which they call 'kaizen' which means constant improvement. They make the goal reachable but it's never good enough. They say, 'OK, this silicon computer chip is 99 percent perfect and we have 1 percent rejects. That's fine. Now our goal is 0.995 percent perfect.' And they just keep doing that forever. Of course, that's what we need to do, too," to increase our competitive edge over the Japanese, emphasized Locke. ♦



Industrial Organizational researcher Edwin Locke addresses symposium on human motivation and goal setting.

Fear, Anxiety, and Depression: Evolution, Processing, and Disorders

Emotions Affect Memory, Perception, and Cognitive Processes

Fear may be associated with an adaptive conservatism. In the course of natural selection, the cost to the organism for treating a threatening stimulus as non-threatening was probably much greater than any cost that might occur from mistakenly treating a safe stimulus as threatening.

Susan Mineka of Northwestern University suggested this may be the reason that fear became associated with a cognitional bias to perceive, remember or interpret irrelevant stimuli or situations as more threatening than they actually may be. This adaptive conservatism hypothesis is highly speculative.

Many of the predictions it might make have never been tested, she told an audience of several hundred attendees at the APS convention Presidential Symposium on Emotion and Memory.

However, if the adaptive conservatism hypothesis does have relevance for understanding fears and phobias, could it also help to understand other emotions and emotional disorders?

Mineka noted that fear is an emotion that has clear adaptive value in that it activates the fight-flight response of the sympathetic nervous system, preparing the animal for dealing with danger and threat.

"Anxiety and depression, by contrast, are more diffuse emotional statements, generally thought to involve a blend of emotions," Mineka said. "They share many symptoms and they often co-occur, but they also have some distinguishing features. Their adaptive value may be less clearcut than is the adaptive value of fear. But many have argued that the emotional states of anxiety and depression are indeed

adaptive. Anxiety involves anticipation of real or imagined future threats, helping the organism to prepare for, and, ideally, avoid those threats. Depression may have been adaptive in promoting withdrawal and conservation of resources in times of stress when coping efforts have all failed.

Admittedly, when these emotional states become severe and chronic as in the cases of clinical anxiety and depression, the adaptive function is no longer clear. But what is adaptive in the short term may not be in the long term. And what is adaptive in mild or moderate degrees may not be when carried to the extreme," she explained.

"If anxiety and depression, like fear, have some adaptive value, are the effects that these emotions have on cognitive processing at all parallel to those for fear? Interestingly, the answer appears to be 'yes,'" Mineka asserted.

"The major theme of human research on the emotion/cognition interaction over the past decade has been that anxiety and depression have prominent effects on cognitive processing and that these effects would appear to serve the function of confirming, reinforcing, or enhancing the emotion," explained Mineka. Elaborating, she said that the three main types of cognitive bias that have been identified include: attentional biases, memory biases and judgmental or interpretive biases.

"A substantial amount of empirical work has now documented that anxiety appears to have a preconscious, automatic influence on attention resulting in attention being diverted toward potentially threatening stimuli in the environment. . . . If anxiety leads one to focus more and

more on threat and danger, it's easy to see how anxiety is likely to be maintained or exacerbated. Although corroborating evidence that such a vicious cycle does indeed occur isn't yet available, it certainly seems like a strong possibility and several people are working on this," she said.

But, according to Mineka, there is little convincing evidence for a similar attentional bias in depression. Although when we examine memory biases, the picture seems to reverse itself. "Subjects with clinical depression show a strong bias to recall negative, especially self-referential, information. The bias seems to remit following recovery from depression. Teasdale and others have argued that this memory bias for self-referential material can be seen as part of a vicious cycle of depression. When you are already depressed and your memory is now biased to have you remember the bad things that have happened to you, this is only going to help perpetuate the depression. Consistent with this idea, Teasdale found the degree of memory bias shown by depressed individuals at time one predicts how depressed the subjects will be five months later, even when the subjects are matched at the start on depression levels," said Mineka.

Finally, according to Mineka, the majority of studies examining whether anxiety is *also* associated with a memory bias for threatening information have not found such an effect." It appears then that anxiety and depression have somewhat different effects on cognitive processing than fear. "Anxiety appears to be associated with an attentional bias for danger or threat cues and depression appears to be associated with a memory bias for negative self-refferential information. Theories of cognition and emotion need to address this apparent disassociation between the most common biases for these two disorders," she stated. ♦



Susan Mineka speaks at Presidential Symposium on emotion and memory.

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The Importance of The Citizen Scientist In National Science Policy

An Interview with Former Congressman Doug Walgren
Recipient of APS's 1991 Award of Appreciation

Friend of Behavioral Science and The Citizen Scientist

You've been a friend of behavioral science and have received APS's first Award of Appreciation. Why befriend behavioral science?

For two reasons really. First, I believe behavioral science has a tremendous amount to contribute to society. And second, but more fortuitous, I happened along when behavioral science was being beat up on [in the early 1980s federal budgets]. The behavioral and social science disciplines were the undisputed underdog when I became the chair of the [House] science subcommittee and when Reagan began his ideological budget cutting in 1981. These disciplines just didn't fit into the [Reagan] administration's universe, and they wanted it all their way. It was a mindless attack.

But there were many underdogs under Reagan.

Around that time, in my own Pittsburgh congressional district, someone involved with behavioral science came forward as a supporter. No one can underestimate the importance of an individual constituent from a representative's own district in creating an advocate out of a member of Congress. Since responding to constituents is one of the strongest motivators in representative government, it was a natural response. Like anyone, congressmen want to respond when someone comes to them for help. Human beings respond to being in a position of trust. Herbert Simon turned out to be a constituent 'citizen scientist writ large' who had even won the Nobel Prize! But all I knew then was that he was a supporter; he was sincere; and he was concerned. And he drew the natural response of interest and

Former congressman Doug Walgren has been an important friend to behavioral science. In the early 1980s he assumed the chair of the U.S. House of Representatives Subcommittee on Science, Research and Technology, quickly becoming a key player in defending behavioral science against Reagan Administration decimation of the budgets of the National Science Foundation (NSF) basic behavioral research programs.

Walgren's last official act in Congress, in Aug. 1990, was to introduce the *Behavioral and Social Sciences Act of 1990*, co-sponsored by Rep. George Brown, Jr., (D-CA), now chair of the House science committee. The bill would establish a separate Directorate for Behavioral and Social Science within NSF — to give behavioral science much-needed administrative strength within NSF (see *Observer*, Sept. 1990).

The behavioral science community's official recognition of Walgren clearly required attention, so APS presented Walgren with its first **Award of Appreciation** at the 1991 Washington Convention. But the following interview with the 50 year-old lawyer should give the reader a better appreciation for his past support, and, the Editor hopes, reveal some of the "inside" story on national science policy development.

Since losing his re-election bid for an eighth term in Congress last fall, Walgren has been establishing himself as a "outside insider" presence in the Washington, DC, political arena. In January he joined forces with Tom Tauke, a 12-year veteran of the House, to build a consulting and lobbying business — Tauke, Walgren and Associates.

FROM PREVIOUS PAGE

support out of me.

It is that response to a fiduciary trust in human nature that gives all of us a great hold over those who 'happen' to be elected to public office and creates a way for each of us to be heard by our representatives in a very real way.

Your defense of NSF was motivated by constituent interest and a concern for the underdog?

Well, behavioral science certainly seemed to be the underdog at the time. The Administration simply attacked. We simply fought back. The Reaganauts were opposed to what they called "social engineering" and it seemed like that led them to attack any program with the word "social" or the word "engineering" in it.

As a result, they wiped out not only funding for the social and behavioral sciences, but they also took out the structure that supported a range of science education by eliminating the Science and Engineering Education Directorate at NSF. Although we joked that they eliminated the Directorate just because the word "Engineering" appeared in its name, there was more method to their madness, I'm afraid.

Clearly, we didn't defend behavioral science out of deep appreciation or knowledge. Politics is not necessarily based on being well-read in an area. Instead, legislators rely on conversations with others to become informed. And, in Herb Simon, I had a wonderful source of constituent information and motivation in support of social science.

The April 1, 1991, issue of *The Scientist* reported that Allan Bromley [the nation's science advisor] characterized

the scientific and engineering communities as not being a "singularly effective political force" and that your campaign defeat was due to a lack of initiative on the part of your academic constituents.

Well, he obviously wants to interest people in political activity and that is critical. But nobody should feel especially responsible for my losing my election.

It wasn't just the science community that didn't do all they could. In politics these days something is going on that may be explained best by surveys that show voters are just feeling so distant and irrelevant to the larger forces affecting their lives that they simply don't become involved in supporting candidates.

It's not that the public is apathetic; they simply don't feel they can have an effect. That's not a totally new feeling in the public's psyche. John Kennedy was

responding to the same frustration in 1960 when he urged people to understand that "they could make a difference." But today especially, the public is quick to believe that government is controlled by politicians and special interests who are taking advantage of them. Under those circumstances, I certainly wouldn't blame the scientists for being less active than anyone else.

This seems to be in contrast to your earlier point that citizens are simply naive about the extent to which they can have an impact on an individual basis.

It's really true. Each of us, as individuals, can make a real difference if we focus on our elected representatives. There's not a reason on earth why your representative should not know your name. But, you have to identify yourself to your representative and let him or her know your interest. The door is open, but most of us just don't walk through. It's almost like we don't believe in the meaning of our existence — as if the world is so big that our existence does not matter. We assume

our system of government is too big for us to make any difference.

Civilian Science Is Important

Erich Bloch, former NSF Director stated many times that — for economic and other reasons — more of the nation's \$62-billion federal R&D budget should go into civilian R&D and less should go into the Pentagon, which claims the lion's share. What can the science community do to effect this?

I think it is terribly important for the science community to assert the legitimacy of federal funding for civilian R&D. It seems to me that scientists have, in a sense, been content to benefit from our national willingness to spend tax money under the military umbrella. Now, certainly you can't blame scientists for taking resources and money offered to them by the military. But federal support of civilian science has become first the "stepchild" of science funding — and now the object of rejection — almost suffering the scorn of illegitimacy.

The problem is more one of the political appreciation of government. When, in the 1980s, we as a nation accepted the premise that government was bad, all the funding of civilian science became suspect. I think what we have lacked over the years has been an ongoing effort to assert the legitimacy and the importance of civilian-related research. Except for the "Sputnik period," government's role in civilian science was never really confirmed in the public mind, and it had never happened during the expanding years of the late 1950s and 1960s because budgets grew so easily. But now we've learned that in times of contracting budgets — when increases in support are really needed — federal support for civilian science lacks even the sense of legitimacy, the first step in providing public support.

I remember when my science subcommittee conducted hearings on computer security. The White House had directed that responsibility for all governmental computer security programs be under the National Security Agency. Here's all this civilian information in government computers being made accessible and



Former Congressman Doug Walgren (right) receives APS's first Award of Appreciation following Keynote address by Herbert Simon.

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controllable by the military. That made no sense — even George Washington had a healthy respect for the civilian control of the military. The military witness who testified said that, as a general matter, he had noticed that civilian agencies had trouble getting money, and since the job needed to be done, the military would be happy to do it. That was about the extent of the thought given the issue.

The question is why wasn't the civilian side of government, in this case the National Bureau of Standards, supported to do these things? The issue of the Bureau's legitimacy and importance of the civilian agency was really unappreciated. Then, when there's a need, we instinctively turn to the military, because political support for the rest of government is so weak.

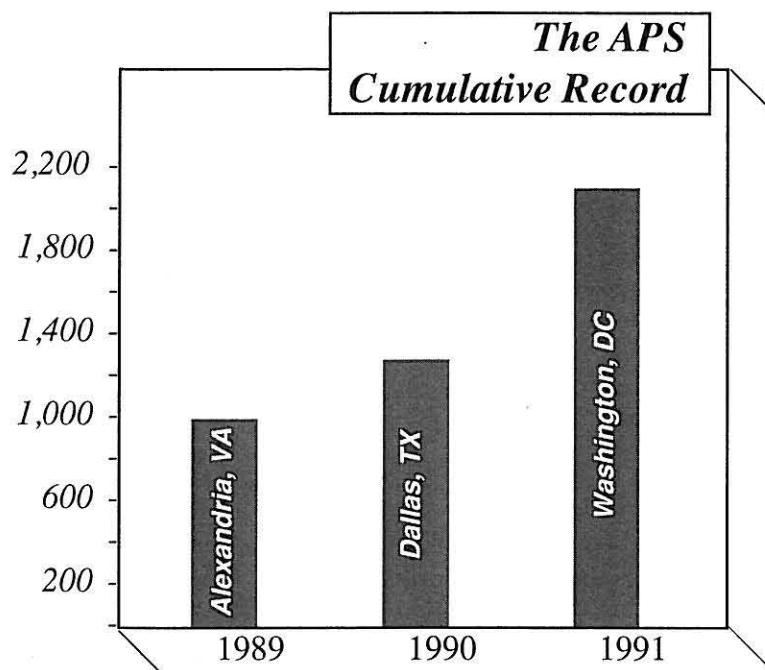
That's not just a problem for science. Take the gasoline shortage of the late 1970s; the congressional response was the Military Liquid Fuels Act. Even though our problem was gas lines for civilians, not the military. What we have in this country is just a very poorly developed civilian side of government. And that is the biggest problem science faces.

Erich Bloch used to talk about NSF serving as a mere catalyst in science education because NSF's budget was too small to do otherwise.

NSF's budget is so small that it almost can't even be a catalyst. While the NSF budget has been frozen, or increasing only marginally during the 1980s, we see the military budget increasing in \$500-million chunks each year. I believe NSF's budget is so small because there hasn't been a real fight for the legitimacy of support for civilian science. Civilian science generally received the crumbs that were falling off the table — easy enough to do. And they did well with them, even though they were crumbs.

There's an analogy of parents who do so much for their children that the children don't learn to do things for themselves. The military has always been there doing for the civilian science sector, so there has been little pressure for the civilian science community to stand on its own.

APS Convention Attendance



Do you think there was administration pressure to keep NSF's budget small, in relative terms, in order to decrease pressure on NSF to become involved in national industrial policy planning issues?

I'm sure that was the motivation for some in the Administration. But our problem now is that Reaganomics has bled all the money out of government and they simply don't have the money to invest in the wide range of science. There is a lot of recognition in the Bush administration of the importance of science, but they simply don't have any money after committing to the showboat mega-projects like the Superconducting Super Collider and the Space Station.

What do you think of science priority setting in national policy? Is it an appropriate activity for the science community?

It is important for the science community to engage in a broad range of efforts to set priorities. But, ultimately those priorities must be filtered through the Congress as the final arbiter. Congress itself is not a bad mechanism for priority setting because by definition all the competing branches of science are brought together through the group of members that serve on the congressional science

committees in a balancing process.

My hope is that priority setting will increase congressional appreciation of behavioral science and its importance in responding to what are our most significant national crises. If we do engage in continual priority setting in science, I would think that the contribution behavioral science has to make will be more and more appreciated.

How do you set priorities across disciplines? What determines merit when different disciplines have such diverse contributions? Do you use economic competitiveness, potential contribution to scientific advancement in a particular area of research, or some other generic measure?

You have to use all those measures, but it seems to me that's where Congress has an important role in priority setting. You wonder if Congress will spend all its money on visionary projects like flying to Mars or will it put the nation's money in more broad-based science? If the citizens of the science community get involved that will probably decide the question. I would predict that Congress would support broad-based science rather than

SEE WALGREN ON PAGE 21

The Student Notebook

by Travis Langley
and Michael Patterson

Caucus Meetings At APS Convention

During the 1991 APS national convention, the APS Student Caucus (APSSC) held its annual meeting. **Current projects** discussed were the Mentorship Program, Membership Conversion, Student Chapter Recruitment, and Travel Awards. John Newman, Mount Saint Mary's College, will chair the Mentorship Program; Kathleen Morgan, California State University, will be in charge of Membership Conversion; Dianna Newbern, Texas Christian University, was selected to head Student Chapter Recruitment; and Lisa Fournier, University of Illinois, will be in charge of Travel Awards.

Elections were also held for the 1991-92 APSSC Executive Council officers. The following individuals were elected: **President**, Carolyn Roecker, University of Iowa; **Graduate Advocate**, Bonnie Eberhardt, Pennsylvania State University; **Undergraduate Advocate**, Elisabeth Gruskin, State University of New York; **Secretary**, Paul Reber, Carnegie Mellon University; **Treasurer**, Zografos Caramanos, McGill University; and **Student Notebook Editor**, Michael Patterson, Texas Christian University.

The APS Student Caucus represents all the Society's student affiliates. It is not an honor society. All chapter chairs are additionally recognized as members of the APSSC national Advisory Committee. Students or faculty wanting information about APSSC school chapter applications should contact:

Dianna Newbern
Department of Psychology
Texas Christian University
Fort Worth, TX 76129
Tel.: 817-927-5034

When applying, student chapter founders are asked to provide information about the institution, department, and students, and to designate a faculty sponsor.



Carolyn Roecker is the newly elected APSSC President replacing Kenn White.

Student Chapter Award

The Student Caucus Executive Council recognized the **Pennsylvania State University** chapter with the Outstanding Chapter Award, which was given to chapter president **Bonnie Eberhardt** during the APS Business Meeting at the APS Convention in Washington, DC. The Pennsylvania State chapter has been highly active, growing rapidly, and implementing numerous projects such as developing and hosting the Mid-Atlantic APSSC Student Research Conference. The Chapter's selection for receipt of the award was based upon a review of its annual report to the APSSC Executive Council — which founding officers of all chapters agree to make when they first apply for a chapter charter. [See photo on page 4.]



Incoming Student Notebook Editor, Michael Patterson of Texas Christian University.

Research Awardees

The Student Caucus presented the first annual **APS Student Caucus Research Awards**. Recipients of the awards presented their award-winning research in a special session during the June APS Convention. Cash awards were presented to **Thomas E. Ford**, University of Maryland-College Park; **Howard Franklin**, Mount Saint Mary's College; **Patrick S. Malone**, University of Texas-Austin; and **Janet B. Ruscher**, University of Massachusetts-Amherst. Entrants were judged by Student Caucus executive officers, committee chairs, and former Advisory Board member Richard Goodwin of Tulane University — to whom we are grateful.



Research award recipients (left to right): Patrick Malone, Thomas Ford, Janet Ruscher, Howard Franklin.

CONTINUED ON NEXT PAGE

Travel Award Recipients

The APSSC would like to express its deepest appreciation to the numerous APS members whose generous contributions enabled us to provide Travel Awards for nearly 50 students to attend the 1991 APS Convention. Without the assistance, some of the following students may not have been able to participate in the Washington meeting.

Congratulations go to these individuals who, in recognition of a variety of merits, received the Student Travel Awards. There were more applicants than recipients, reflecting the growth of the award program. The following awardees received either a cash award or free lodging during the conference:

Deborah Aks, Univ of British Columbia
 Mariangela Battista, CUNY-Baruch College
 Ute Bayen, Pennsylvania State Univ
 Garrett Berman, Florida International Univ
 Mark Carrier, Univ of Calif-San Diego
 Janell Carter, Ball State Univ
 Pamela Caudill, Pennsylvania State Univ
 Kathie Chwalisz, Univ of Iowa
 Kristina DeNeve, Univ of Missouri-Columbia

Donna Desforges, Texas Christian Univ
 William Deuser, Univ of Missouri-Columbia
 Brian Dyre, Univ of Illinois-Champaign
 Linda Gallahan, Univ of Southern Calif
 Carol Gohm, Saginaw Valley State Univ
 Edith Goldberg, SUNY-Albany
 Audrey Goldman, CUNY-Baruch College
 Judy Hall, Emory Univ
 Cindy Hmelo, Vanderbilt Univ
 Barbara Hunter, Pennsylvania State Univ
 Charles Hyatt, Georgia Institute of Technology

Brian Johnson, Univ of Iowa
 Bryan Jones, Millsaps College
 Deborah Kashy, Univ of Connecticut
 Travis Langley, Tulane Univ
 Richard Lenox, Univ of Akron-Ohio
 Kathy MacDowell, Univ of Calif-San Diego
 Cathlyn McMullin, Central Michigan Univ
 Peter Miene, Univ of Minnesota
 Kari Missel, Univ of Iowa
 Lynn Moore, CUNY-Brooklyn College
 Kathleen Morgan, Calif State Univ
 Karen Musiak, Univ of Wisconsin-Whitewater

Dianna Newbern, Texas Christian Univ
 Julie O'Leary, Univ of Wisconsin-Whitewater

Michael Patterson, Texas Christian Univ
 Marites Pinon, Univ of Kansas
 Paul Reber, Carnegie Mellon Univ
 Elizabeth Richter, New College of the Univ of South Florida
 Carolyn Roecker, Univ of Iowa
 Steven Rogelberg, Univ of Connecticut
 Linda Rueckert, Univ of Chicago
 Elizabeth Saul, Vanderbilt Univ
 Lisa Scarborough, Univ of Houston-Clear Lake

Carol Ting, Wellesley College-Massachusetts
 Michele Webb, Univ of Wisconsin
 Kenn White, Harvard Univ
 Douglas Wiegmann, Texas Christian Univ
 David Yuan, Univ Southern Calif

Focus on Luther College

In the two-year history of the APS Student Caucus, student affiliates of APS have been forming APSSC chapters at colleges and universities across the country. Each chapter is unique in that its structure is developed by the chapter members to meet *their* particular needs and interests. Much of the important work of the APSSC, such as sponsoring regional student research conferences, is implemented through chapters. To recognize those students who are doing the work and advancing the aims of the Society locally, the Student Notebook features various chapters from time to time.

This month we focus on the Luther College chapter in Decorah, Iowa. Officers Susan Linnerooth, Karen Quinby, and Sara Beth Tandy, and faculty sponsor David Bishop describe the origin, purpose, and direction of this chapter.

Q. How did your chapter at Luther begin?

Linnerooth: It began as an interest on the part of the Psychology Club to become more involved with psychology on a national level. Many of the faculty were already APS members and this spurred the idea. The Psychology Club passed a motion to proceed with the application process and establish a local chapter. Three club members and I formed the charter committee and drafted a preliminary application. We began to promote student and faculty membership and had

five faculty and twenty student members sign our application for charter status.

We were granted charter status in April, 1990, and I organized a formal dinner in May to celebrate the occasion. Invited were the student and faculty APS members at Luther, the president and dean of the college, and Kathie Chwalisz, then President of the national Student Caucus. As chair of the charter committee, I gave a talk about the history of the American Psychological Society and APSSC. We concluded the evening with the election of officers.

Q. What is the role of the Luther chapter?

Bishop: The APS chapter is one of three student organizations supported by the Department of Psychology. Along with the Psychology Club and Psi Chi, the Student Caucus chapter functions as an independent organization with its own mission, organizational goals, and bylaws. While three student organizations may seem to be a bit of overkill in a relatively small liberal arts college, the program objectives and goals of the three organizations only modestly overlap. Since Psi Chi is an honorary organization and the Psychology Club is an organization open to anybody with an interest in psychology, a student organization with ties to a national scientific body has a unique organizational niche on our campus.

Q. What are you doing to promote APS and APSSC membership?

Linnerooth: Promoting APS and, thus, APSSC membership is an ongoing process. While the psychology faculty encourage student membership in several national organizations, we periodically ask them to specifically promote the Student Caucus in both their classes and during advising. In addition, we promote it through the Psi Chi and Psychology Club here at Luther. Information about our meetings and events are published in the Psychology Club newsletter.

While word of mouth has been very effective, we are taking other steps to encourage more people to join. A committee was established in November to help promote membership. During our membership drive in March we sent letters to psychology majors and minors, notifying them of the existence of the organization and the role it plays at Luther. We followed this with an informational meeting for those interested. In addition,

we are in the process of developing a flyer to give to students who have expressed an interest in the Student Caucus. This will be available to prospective Luther College students as well. Finally, back issues of *Psychological Science* and the *Observer* are made available to encourage interest in APS and the Student Caucus.

Q. How do you promote students as psychological scientists?

Quinby: We have tried to develop a program of activities that would focus more on the science of psychology and somewhat less on professional issues than our sister organizations. For example, last September we sponsored a lecture on olfaction by Dr.

Tyler Lorig of Washington and Lee University. At our November chapter meeting, Dr. Madison Dengler, a member of our psychology department, spoke about his research on subliminal perception. Then in December, Dr.

William Moorcraft, another member of our faculty, demonstrated the department's newly installed brain mapping computer system. All of our programs to date have been well received and well attended.

Q. How does your psychology department support your efforts?

Bishop: Since five of our seven department faculty are APS members, there is a great deal of enthusiasm for a local APS student group. The department currently provides for a faculty advisor, meeting space, modest financial support, a computerized mailing list, and professional support — primarily in the form of talks and dinners. In the future, I would like to see the Student Caucus have its own office space within the department. The mission of the APS Student Caucus dovetails nicely with the overall philosophy of the department — that is, to promote psychology as a scientific discipline and to disseminate its findings. Consequently, we would like to see this organization thrive and become a permanent organizational entity. However, as an organization constituted by students, for students, the future of the organization is entirely in the

hands of our students.

Q. What are your chapter's future plans?

Tandy: We have been working very hard to come up with a program of activities and events for our chapter. So far, we have several special events tentatively scheduled for the spring semester. Of these events, two are of special interest to many of us — tours of the newly installed general psychology computer network and the new brain mapping facility. We intend to have a workshop on applying to graduate school and a workshop on resume writing. Dr. Bishop will demonstrate several new computerized statistical packages that have recently become



Officers of Luther College student chapter (left to right): Sara Beth Tandy, Karen Quinby, Susan Linnerooth. Dave Bishop is faculty advisor (right).

available. And, finally, we have asked each member of the psychology faculty to submit a short list of journal articles that they have recently read and found to be interesting. This list will be completed and distributed to Student Caucus members at a monthly meeting.

Linnerooth: We have already taken several steps that I think will strengthen our new organization. Two committees were recently established to ensure that some of the more pressing tasks are accomplished. A publicity committee was established to inform the student body of upcoming Student Caucus functions and to promote chapter membership. The chapter voted in February to purchase a desktop publishing program. A history committee has also been established to keep a written record of chapter business, events, and activities. A fundraising committee is being developed too.

We are excited about the potential APSSC holds at Luther and hope it continues to grow as rapidly as it has this past year.

APSSC Officers Executive Council 1991-1992

All the officers welcome students and others who wish to contact them about concerns particular to their own offices. Contact Secretary Paul Reber for general inquiries, regional student conference information, and other requests. Correspondence, inquiries, and submissions to the Student Notebook should be directed to Editor Michael Patterson.

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Travel Awards

Lisa Fournier
University of Illinois



APS Administrative Assistant
Dorothy Anderson

New APS Staff Receive Welcome

When you telephone the APS office this summer, your call is likely to be answered by **Dorothy Anderson** or **Bethany Blair**, two recent additions to the APS staff. Or, you may even have received a call from one of them about convention registration or membership renewal. Those who were at the June APS Convention will recognize Dorothy and Bethany for their front-and-center roles at the registration desk.

Dorothy Anderson comes to us from Hastings, Nebraska. Dorothy joined APS after a brief stint with IBM, and has been working with Special Projects Director Bev Hitchins on convention activities. She graduated from the University of Nebraska at

Lincoln with a major in Vocational Home Economics Education. She taught Home Economics for several years at the high school level. She later received an elementary teaching endorsement and has since taught kindergarten and first grade classes.



APS Summer Intern
Bethany Blair

Bethany Blair is working as a summer intern at APS. She will be a junior at James Madison University in Harrisonburg, Virginia, in the fall, where she is majoring in psychology. The University does not yet have an APS Student Caucus Chapter, so we are counting on her to pave the way. In the meantime, Bethany has been involved with the Psychology Club there.

After a year of classes in statistics and experimental design, she said she particularly enjoyed the June APS Convention. She especially enjoyed the Bring-the-Family Night address on hemispheric specialization by Jerre Levy. Bethany is a second-generation psychology student, as her mother, Virginia Blair, is an ABD at George Mason University in Virginia.

instruction. It's also hoped that the journal will create new ties and better understanding between psychologists in areas now too often separated by invisible walls or vast theoretical oceans between their subdisciplines.

Gallistel and Scarr, as soon as they were appointed to the co-editorial posts, contacted about 70 key researchers. They invited many of them to contribute reviews to the first several issues of the



Randy Gallistel, of the University of California-Los Angeles, is co-editor of the new APS journal.

journal. Each issue will carry about 12 reviews by leading researchers, each outlining their own and related research, and all of them together ranging over many different areas of psychological science.

Scarr and Gallistel said *Current Directions* will be like a published version of the familiar psychology department colloquium, but always at the cutting edge of research and with the broadest possible range of topics.

Gallistel pointed out that "at a department colloquium you present your own research along with results from some others doing closely related sorts of things. That's the format we have in mind, but with worldwide scope."

James McGaugh noted Scarr's role in developing the concept of *Current Directions*. "You just can't imagine the amount of work that went into first developing the ideas, screening the ideas, making the suggestions, reviewing the suggestions, and finally taking action leading to the development of the journal. We are pleased she is willing to take on

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now — not at her request, as a matter of fact — at our request and at her surprise the co-editorship of *Current Directions*. She was astonished, depressed, elated, and she finally accepted it.”

In addition to the contacts they have made, the new editors are seeking suggestions from APS members. “We are asking people who would like to do reviews to send us a one-page indication of what they would like to cover,” Gallistel said. “We anticipate getting some reviews this way. We also ask our colleagues to write to us or to send us email letters alerting us to interesting work being done by other people.” [See box for addresses.]

Scarr’s and Gallistel’s recommendations to prospective authors emphasize the special mission and format of *Current Directions*. They say the mission is to present succinct reviews of developments at the leading edge of research — the work, ideas, and insights of leading researchers along with some related work of others, in articles 1,500 to 2,500 words in length. They will emphasize central



Sandra Scarr, of the University of Virginia, is co-editor of the new APS journal.

issues, fundamental ideas, and broad implications. The style should allow for quick assimilation by non-specialists and also be suitable for college classroom use. Further details on these requirements are available on request to the editors.

Gallistel expects many of the reviews to be “rather personal.” He points out that “three printed pages or so won’t be enough for a general survey or a general overview. Most of the reviews will be specific interesting lines of experimentation that are yielding new information of general interest.”

Gallistel added, “One of the things I am particularly interested in is publishing more European and other non-North American research than you find in most journals based in this country. Much of the most interesting work in neuroethology, for example, is being done in Europe, Australia, and Japan. It would have wide interest for American psychologists, if only they knew about it,” Gallistel said.

Scarr and Gallistel are themselves leading researchers in two of the broad areas within *Current Directions*’ wide editorial territories. Scarr’s work in child and adolescent development today influences much thinking and policy formation on day care for children and other major policy topics. Gallistel got his PhD from Yale, rose to the rank of professor at the University of Pennsylvania and is now professor at UCLA. He describes his research focus as the phenomenon of electrical self-stimulation in the brain, which he expects to uncover important information about the cellular and molecular basis of learning. He is broadly interested in and has written extensively on learning and motivation.

Scarr said she and Gallistel have put aside for the moment an earlier notion of recruiting substantive editors for general fields within the journal’s spectrum, such as cognitive, neuroscience or social psychology areas.

“We talked about that a lot,” Scarr said. “Each of us is conscious of several fields we don’t feel especially knowledgeable about. But we both know a lot of people in those areas and can call them up and ask them about anything we need to know. So we decided to try it just by ourselves for a little while.”

The new journal will be published by Cambridge University Press, which also publishes APS’s *Psychological Science* journal. It will come with APS membership for the first year. After that, an optional subscription charge will be added to the dues. **D.K.**

CALL FOR PROPOSED PAPERS

Co-editors Randy Gallistel and Sandra Scarr seek descriptions of proposed reviews for publication in APS’s new journal, *Current Directions in Psychological Science*. Although most reviews will be commissioned by the editors, readers are encouraged to submit proposals. Following review, the editors may solicit full 1,500- to 2,500-word written reviews of the research area proposed.

The editors seek reviews by experts on developments at the leading edges of research, current theoretical and methodological controversies, and policy issues. The journal is intended to keep readers abreast of developments across the broad spectrum of psychological science and related fields. The reviews will alert nonspecialists to important new developments in research, theory, methods, and applications and are to emphasize central issues, fundamental ideas, and broad implications.

Submit letters of no more than one page describing your proposed review to either editor:

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CONVENTION FROM PAGE 1

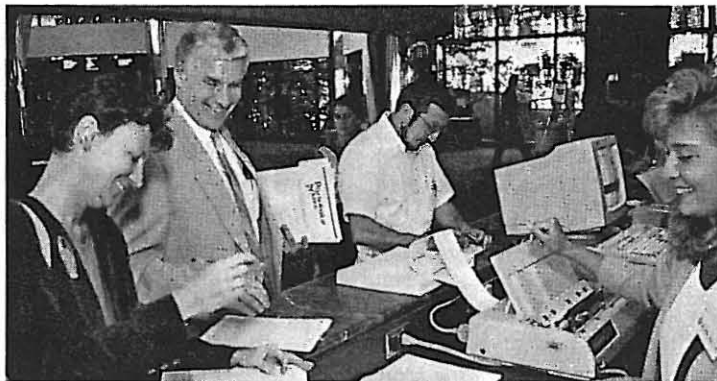
Symposium on Emotion and Memory. But most of the time they split up among the three or four invited addresses and symposia going on simultaneously. Or, they plunged into discussions at poster sessions, went to television/course video previews, explored the exhibits, visited the job placement center, or took part in meetings of groups such as the ever-growing APS Student Caucus.

Representatives of nearly 40 grant-funding federal agencies presented posters and discussed grant priorities and grantsmanship with hundreds of visitors to the federal poster session. Many handled more than a hundred inquiries in the two-hour session.

But grants, research reports, committee meetings, and awards were not the only business of the convention. The meeting was more than ever a homecoming for a wide range of different types of scientific psychologists who, in the words of William James Fellow awardee Martin Seligman, "seem to have found a home at last."

Embraces and exclamations that filled the Sheraton's vast halls, and well-attended cocktail hours attested to this family spirit.

However, for those whose deepest yearning was a ringside seat at the spectacle of federal folly, a satirical group of Washington chansonniers, the Capitol Steps, was there to supply the need. They even surprised the crowd by conscripting APS's own Alan Kraut into their folly and fancy steps. It was a stunning performance of three-part harmony of famous



At the convention registration desk: Lynn Smith of the Annenberg/CPB Project (left) and James Sanford of George Mason University (middle) are greeted by APS summer intern Bethany Blair.

show tunes and popular songs adapted to a most entertaining poke at the Washington political scene.

No matter how the federal government is faring, APS seems to be in the very best of hands. Gordon Bower of Stanford University was officially installed as APS President for a two-year term, and James McGaugh, in his farewell words, urged APS members to remain always true to the values of scientific psychology that drew them together in APS in the first place.

APS's membership has grown to over 12,000. And its annual budget now tops \$1 million, it was announced by treasurer Paul Thayer. He said auditors give APS the healthiest of financial ratings, and he attributes this enviable position in part to the fact that only 2 percent of the APS budget is spent on board and committee expenses.

In the addresses and symposia, neuropsychology and comparative psychology were well-represented. But Herbert Simon, in his keynote address, told researchers that psychology does not

need to wait for further research to explain human behavior. It can do that rather successfully already, without bringing underlying factors and root causes into the picture, or for that matter even thinking about neurons or the quarks that underlie the neurons. [See story on page 19.]

The multiple possible ways of observing and understanding human behavior and promoting behavioral change were, in fact, brought out in sessions that focused on a full range of topics of basic and applied psychological science. The subjects included addictions, memory problems of the aged, leadership, women's health problems, psychotherapy with ethnic minority groups, virtually real environments, drugs and the workplace, emotional contagion, cross-cultural musical perception, and real-world research on social problems.

Previewed for APS were the Annenberg/CPB Project's first three Abnormal Psychology television programs fresh from production. Ten more of the hour-long programs are still in production and are scheduled for release in the fall of 1992. They will be available to more than 300 educational TV stations in the Public Broadcasting network as well as for use in classrooms. Also screened were examples from the Annenberg/CPB Project's 26-part *Discovering Psychology* series with Philip Zimbardo and from *Seasons of Life*, a developmental psychology series of 5 video and 26 audio tapes developed by John Kotre of the University of Michigan-Dearborn.

NOTE: *Observer* Staff Writer Don Kent contributed the convention stories for this issue.



Keynote speaker Herbert Simon (right) mixes with reception attendees Michael and Deena Ehlert in exhibitors hall.

Simon Delivers Inspired Perspective on Psychology as A Successful Science

Explaining Human Behavior Within and Across Levels of Analysis

No need to wait and hope for some future day when we will understand how the human mind works, Herbert Simon told the opening session of the American Psychological Society convention.

It's here now.

Psychology is not a science that must await coming of age in the future. "We have a cognitive psychology *today* which explains a tremendous range of human behavior, takes the mystery out of it," the pioneer in artificial intelligence declared.

"We now already understand a great deal about how the human mind works, even in some of its more complicated and spectacular workings," said the Nobel Prize laureate from Carnegie Mellon University.

"The explanations, as it turns out, are relatively simple. Maybe that's where the disappointment comes in. We think somehow that it all must be more complicated and deeper than it is. And, in fact, and we shall see, much of the evidence is commonplace," he said.

"I don't want to discourage any of you from going into the laboratory and doing hard work there," Simon told an audience of over a thousand that included many neuroscientists and others from biological and physiological research areas. "But a good deal of the evidence I will allude to is evidence that we can get in our daily lives," he said.

Reaffirming that he is neither an anti-reductionist nor a vitalist and that he appreciates that thinking is achieved by our brains as biological structures, Simon said that "to understand human behavior at one level we will need to understand how it is accomplished by neurons," he said. "But most of the time, if we want to explain things at a gross level, let's say at

the symbolic level, we can do so without knowing what is going on at the neuronal level. That doesn't mean that the neuronal level is unimportant or uninteresting. It certainly doesn't mean that when we *do* discover the neuronal mechanisms — for example, what constitutes a memory at the biological level — we won't want to have a bridging theory between neural and symbolic theories of human thinking. We certainly will!"

But for now, Simon pointed out, "We know very well that nature is constructed in layers, in levels. We also know that ordinarily one does not need to know the detailed architecture at the lower levels in order to explain things in more aggregate terms at the higher level.

"So chemists can go on their merry way explaining things in terms of the combination and recombination of elements in the molecules, simply ignoring everything about the quarks that they know everything is built on — though they can't ignore them for all purposes. I'm sure that some kind of phenomenon will occur at some point in which a quark has sneaked its way through and is making its existence clear at the molecular level. And similarly, for human behavior, even in the most complex behavior, like playing chess or writing a poem, I'm sure that it is possible that some neuron could sneak through and let that behavior become visible at the neuronal level."

Noting, however, that there are always deeper foundations — there is nothing fundamental about the neurons — Simon pointed out that to be a pure fundamentalist one would need to explain neurons in terms of quarks. "But I don't think that's going to happen in the lifetime of anyone here today."

Refocusing on explanations of human behavior, Simon remarked, "When I say we know a great deal about human behavior, I'm simply saying that neurologists can have their own claims, neuropsychologists, too. And, I'm claiming that cognitive psychologists know a lot about how symbolic processes allow humans to do the kind of thinking they do. These symbolic processes operate at the granularity of hundreds of milliseconds or tens of seconds." Thus, said Simon, we want explanations of human behavior in which the grain of our analysis is second by second or tens of



APS Convention Keynote speaker Herbert Simon.

seconds by tens of seconds. "That seems to me what information processing psychology has been doing all along.

"Sooner or later we will want that bridge between symbolic theories of the mind and neurological theories of the mind, and of course bridges do not generally have to be built from just one bank of the river. Many psychologists who started at the symbolic end, at the coarser level, will want to try to extend downward and ask what trains of biological elements might account for these phenomena . . ."

"So we don't have to fight the old wars of Is-it-neurological-or-is-it-symbolic?"

FROM PREVIOUS PAGE

It's both. They both have important explanatory tasks at their respective levels.

"Likewise, neurologists do not have to feel that the whole weight of the world is on their shoulders. They do not have to explain how a single neuron can write the works of Shakespeare — it probably took all of his neurons to do it. If they can simply tell the rest of us how an element of memory is captured, what the implementation is of basic chunks in memory, there will be a lot of symbolic information processing psychologists who will be very glad to try to help track it the rest of the way up."

In the decade or two ahead, Simon expects that one of the real challenges will be how to extend our explanation of individual human behavior which is the product of fundamental but complex social processes. Such behavior depends very much on each particular subject whose behavior is being studied.

At some future time when "the history of psychology will be written correctly," Simon thinks "it will show very much more continuity rather than any pattern in which one empire, one school of thought rises and falls to be replaced by another. "The cognitive revolution, if there was a revolution, did not destroy gestalt psychology or behaviorism. There were all those great experiments out there, observations, careful observations of human behavior. That's what we have to explain, whether those observations are made by Thorndike or Skinner, we have to explain those observations. Also, cognitive psychology is prepared to grapple with the kind of complexity which the gestaltists thought were central to understanding higher mental processing.

"In contemporary cognitive psychology, we talk about 'productions.' We say action is produced when certain conditions exist and these conditions cue the action. To some ears that might just sound like something called stimulus-response. Well, indeed, there is continuity. I'm not pretending that productions are exactly stimulus-response links, but there is certainly a very strong ancestral relation.

"In the same way, as some of us pursue various kinds of parallel architectures, various kinds of network ideas for describing human thought, and as others

of us talk about the complexity of the world out there and the necessity of viewing an action within its context and situation, I think we will see more of that continuity. It will build on our present field as it has for the last 100 years.

Simon concluded by saying that psychology is *not* a science of the future but rather is a science of *today* that successfully explains an enormous range of behavior. Summarizing his main points:

"First, I have argued that computer programs are theories. They are simply difference equations," he said. Earlier, Simon characterized computer programs as systems of "difference equations" capable of doing the same kind of explaining that the differential equations of physics and the other natural sciences do. He also said computers "are natural devices for providing a language of theory for psychology."

Second, Simon said we don't have to torture ourselves about the neurological versus symbolic. Behavior can be explained at *both* of those levels and, eventually, we want both of those explanations plus a bridge between them showing how one can be reduced in *principle*, but not computationally, to the other.

Third, Simon emphasized that behavior, although adaptive, cannot be predicted from adaptivity alone, because it depends so much on the knowledge and strategies that are available to the actor and because those, in turn, can change and do change steadily through learning. And, since adaptive behavior is a function of strategies of knowledge, both largely acquired from the social environment, there can be no sharp boundary between cognitive psychology and social psychology.

Fourth, we have learned that the core of an expert system (including a human expert) is a system of productions, or a cue-response system of conditioned action pairs that function like an indexed encyclopaedia. The cues are recognized and trigger an associated action.

Fifth, since adaptive behavior is a function of strategies and knowledge, both largely acquired from the social environment, then there can be no sharp boundary between cognitive psychology and social psychology. There should be greater communication between these groups than there has been in the past, therefore.

Finally, a principal means for testing theories of cognition at the level of elementary symbolic processes is to compare the successive behaviors as they progress with the successive behaviors of subjects as revealed by thinking-aloud protocols and eye movements.

Simon regretted that such a high level of abstraction did not permit an in-depth look at the rich detail of behavior that we *can* explain (e.g., chess playing, decision making, problem solving in math and physics, medical diagnosis). ♦

HERBERT A. SIMON is Richard King Mellon University Professor of Computer Science and Psychology at Carnegie Mellon University, where he has taught since 1949. During the past thirty years he has been studying decision-making and problem-solving processes, using computers to simulate human thinking. He has published over 700 papers and 20 books and monographs. Educated at the University of Chicago (PhD, 1943), his work has been recognized by honorary degrees from a number of universities. He was elected to the National Academy of Sciences in 1967. He has received awards for his research from the American Psychological Association, the Association for Computing Machinery, the American Political Science Association, the American Economic Association, the Institute of Electrical and Electronic Engineers, and is an APS William James Fellow. He received the Alfred Nobel Memorial Prize in Economics in 1978, and the National Medal of Science in 1986. He has been Chairman of the Board of Directors of the Social Science Research Council, and of the Behavioral Science Division of the National Research Council, and was a member of the President's Science Advisory Committee.

His books include *Administrative Behavior*, *Human Problem Solving*, (with Allen Newell), *The New Science of Management Decision* (rev. ed.), *The Sciences of the Artificial*, *Models of Thought* (Vols. I and II), *Models of Bounded Rationality* (Vols. I and II), *Reason in Human Affairs*, *Protocol Analysis* (with K. Anders Ericsson), *Scientific Discovery: Computational Exploration of the Creative Process* (with Patrick Langley, Gary Bradshaw, and Jan Zytkow), and *Models of My Life* (autobiography).

WALGREN FROM PAGE 12

spending all its money on just a few projects, if the science community gets involved. In our society Congress, was the final say because it is the closest representative of the people we have it is most representative of the people.

Public Image of Science

The public image of science has suffered recently — with media coverage of fraud and misconduct, inappropriate indirect cost accounting. Ambiguity surrounding cold fusion research hasn't helped. What's your perspective?

The public really *does* value science, and I think if you're worried (as a scientist) the public is turning away from science, that underestimates the impression science has made on the public. The atom bomb is the basis for a lot of appreciation for science. What if the Germans had gotten the bomb first? That's deep in the psyche of these last 40 years. There is also the public's knowledge that there have been real advances in medical science, and they want such advances to continue. There is deep and instinctive support for science.

The degree to which science has been supported in Congress has been relatively non-controversial because the support has come from Democrats and Republicans. Reagan was really the first break in that support and was the first to threaten across-the-board support. But perhaps that broad support was both a blessing and a curse, because, as a result of having such broad support, the political system never *had* to focus or fight to confirm its place in the national agenda. Now it must focus.

What's your perspective on the public image of behavioral science?

I think behavioral science may be the most under-appreciated science compared to its potential benefit to our society. Its subject matter lies at the heart of everything we value. Behavior underlies

economics, public opinion, marketing. In terms of immediate salvation, AIDS is a behavioral problem. The nation's educational vulnerability is a behavioral problem. Most economic progress in the last 40 to 50 years and the solutions to the real national crises lie in behavioral science. Yet we are not pursuing behavioral science with any degree of focus in federal science policy. It's an incredible anomaly.

I remember, in the early days of the Reagan Administration's efforts to get regulation "off our backs," the president of General Motors said he didn't mind all the regulations that much. What he really needed was help in motivating his workers to be productive — even to show up for work. Again . . . a behavioral problem.

Science has been pressured relentlessly by the animal rights movement. Should the citizen scientist be concerned about the impact of the animal rights movement on Congress?

The political reach of the animal rights movement — as distinguished from the cost of meeting requirements of the regulations and additional attention to defending research facilities — is not what is really creating great danger at this time. The animal rights movement and the fraud in science and indirect cost issues pale next to the "illegitimacy" of support for civilian research I mentioned earlier.

I think the public understands that there are people — even in science — that are going to cut corners in a way that could be described as fraud. That won't hold science back. The animal rights movement is difficult for the scientific community to deal with because you essentially have to secure facilities and protect them from attack. It's hard not to feel under attack when someone might break in and destroy all your data. But that's really

only a physical problem and has nothing to do with funding support. Like others in Congress, I have always had a lot of instinctive support for the idea that breaking into the laboratory should be a criminal offense.

I was involved in some of the animal rights issues when the science subcommittee had jurisdiction over the Silver Spring Monkey incident. And we came out with legislation strengthening the requirements for animal care committees in very reasonable ways. And in fact, as we were doing the legislation it became clear that NIH, which was the major player, was running right with us.

But while lab break-ins are only physical problems, aren't they reflective of a general decline in public support of science?

I don't believe there is a general decline in public support of science. Although I could be simply wrong, I do not feel the use of animals in research is truly at risk on Capitol Hill. I think the public as a whole instinctively appreciates health science. They want animals humanely cared for but they want the benefits of medical advances for themselves and their families.

I think, if anything, the 1986 Challenger explosion was a much greater psychological setback to the public faith in science. But, even that is fading in our memory. Although the cold fusion incident was testament to national wishful thinking, and indicates we still believe science will solve our problems.

The important thing is for citizen scientists promote the understanding of the importance of government support for civilian R&D. A lot will follow. Ironically, science itself may not be in such jeopardy in these federal budgets; the problem is mainly distributional, with too much money going to big science projects.

The real issues for science are the level of support for the individual researcher

I hope somebody will think about the contribution behavioral science can make in motivating citizens to realize their power . . . in a democracy.

DOUG WALGREN

There's not a reason on earth why your representative should not know your name.

DOUG WALGREN

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WALGREN FROM PAGE 21

and for science education. Despite lip service given to science education, recent administrations have *not* been supportive.

Getting Personal

Have you turned over a new leaf in your new job? Do you see yourself settling into work a while on this side of Congress?

Well, it is an interesting side to be on, and I have always felt that someone can focus on issues much better from outside the Congress. The office holder has so many roles — each of which can be described as a full-time job. You have a district office to run; the Washington office to run; committee staff to chair; and several other committees you should be paying attention to. Then there is the floor of the House of Representatives; raising money for re-election; and public relations to reach constituents. So how can anyone stay focused on one issue?

The answer is you don't. The role of the congressman is to be a generalist. Being out of Congress should allow you to focus. In reality, a citizen committed to a particular change (although it may not feel this way) has as much, if not more, ability to effect change as someone elected to office. The citizen can *stay* with the problem. From a personal standpoint, it is a fair question whether you should be too long in such a generalist role. Life deserves a focus at some point.

Did you come to this realization after your election defeat?

I admit . . . I may be rationalizing.

Would you consider running for office again?

In a minute, I'm afraid. Despite its pluses and minuses, being a congressman is inherently interesting. And the opportunity to help create opportunities for others is important in anyone's values, and I enjoyed that part of serving in Congress.

Any final comments?

In the politics of this country, individual people — each of us — are the prime movers. I hope somebody will think about the contribution behavioral science can make in motivating citizens to realize their power as citizens in a democracy. With people thinking they cannot be heard and that they cannot change the forces that affect their lives, its hard to have much confidence in our future.

But they *can* be heard and they *can* change these forces. With the leverage our country has on the world, we have a tremendous obligation to do everything we can to increase opportunities for the future. How can we turn the key that can truly connect people who are now simply withholding themselves from the process

Robert Frost said (in his poem for the John Kennedy Inaugural) that to the degree the history of America has not lived up to our values, it was because we "withheld ourselves" from our commitment to our Land. That is still true. ♦

ALAN T. WATERMAN AWARD NATIONAL SCIENCE FOUNDATION

In August 1975 the Congress established the Alan T. Waterman Award to mark the 25th Anniversary of the National Science Foundation and to honor the first Director of the Foundation, Dr. Alan T. Waterman.

This **annual award** recognizes an outstanding young scientist in the forefront of science. In addition to a medal and other recognition, the recipient receives grants of up to \$500,000 for a period of up to three years for scientific research or advanced study in the biological, mathematical, medical, engineering, physical, social or other sciences at the institution of the recipient's choice.

The Alan T. Waterman Award Committee annually solicits nominations from a wide variety of sources and invites you to participate in the nomination process.

Candidates must be U.S. citizens or permanent residents and must be 35 years of age or younger, **OR** not more than 5 years beyond receipt of the PhD by December 31 of the year in which nominated. Candidates should have completed sufficient scientific or engineering research to have demonstrated, through personal accomplishments, outstanding capability and exceptional promise for significant future achievement. In addition, candidates should exhibit quality, innovation, and potential for discovery in their research.

The format for submitting the information required by the Committee's form. **This form (or copies) must be used for all nominations and renominations.** If you wish to renominate a candidate, please submit an updated nomination form to the Foundation. If there is no additional information to add, you may call the number listed below to request renomination of your candidate. All nominations and renominations must be in conformance with the eligibility requirements stated above.

Fifteen copies of each nomination should be submitted to the Alan T. Waterman Award Committee, National Science Foundation, 1800 G Street, NW, Room 545, Washington, DC 20550.

Announcement of this Award takes place in May of each calendar year. For candidates to be considered for the 1992 Award, nominations must be received by the Foundation before December 31, 1991.

Obtain forms and additional information by contacting the Executive Secretary, Mrs. Susan E. Fannoney, at the address above, Tel: 202-357-7512.

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Abuse (NIDA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA), both of which provide funding for a large number of research psychologists.

NIMH Director Named

In a related move, current ADAMHA Administrator Fred Goodwin has been appointed director of NIMH. Goodwin replaces Acting Director Alan Leshner, a psychologist who had been widely assumed to have the inside track to become director. Leshner will remain at NIMH as Deputy Director. Goodwin, while clearly biomedically oriented, is thought to be more familiar with and supportive of behavioral science research than previous directors.

Legislation to accomplish the transfer of NIMH to NIH has been introduced in the Senate Labor and Human Resources Committee by Chairman Edward M. Kennedy (D-MA) and ranking minority member Orrin Hatch (R-UT). In introducing the bill (S. 1306) Senator Kennedy was forceful in expressing his intention that the transfer to NIH will not diminish NIMH's behavioral research mission.

Creating a Critical Mass

"Some have suggested," said Kennedy, "that while NIH has developed a formidable reputation for sponsoring quality biomedical research, it has less experience in the behavioral sciences that anchor the research portfolios" of NIMH and the alcohol and drug abuse research institutes.

Further, Kennedy said that "for too long, researchers in the fields of mental health and substance abuse have been second-class citizens in the medical research community because their disciplines are not represented at NIH."

While this may be the case for psychiatry, psychology has always had a significant, albeit relatively small, core of support at NIH. In 1991, this support will amount to over \$250 million in the \$8-plus billion agency.

"Our hope is that bringing NIMH to NIH will create a critical mass of behavioral science that will inject even more of

a psychological perspective into NIH," said Alan Kraut, APS Executive Director, in endorsing the proposed move.

A similar view was expressed by NIH director Bernadine Healy, who reportedly is enthusiastic about having NIMH under her jurisdiction, in a recent meeting that the Secretary of Health and Human Resources Louis Sullivan convened to discuss the proposed transfer with representatives of the research and services disciplines affected by the proposed transfer.

Earlier, the APS Board of Directors discussed the move with Leshner at their June meeting. Leshner, fresh from meetings with Administration officials to iron out details of the transfer, told the Board that "in terms of the science, and the value placed on the science, NIMH will be better off."

The Senate bill addresses concerns that APS and others in the psychological science community have raised with the Senate previously concerning NIMH's bias toward biomedical research to the detriment of behavioral science. S. 1306 specifies that the purpose of NIMH's research program is "to further the treatment and prevention of mental illness, the promotion of mental health, and the study of psychological, social and legal factors that influence behavior."

Common Goal, Different Language

Kennedy also spoke to concerns about separating research from services. "Researchers and service providers share a common goal, but they speak a different language and thrive in different professional communities," he said. "Rather than collaboration between research and services, ADAMHA has been the setting for competition between these activities."

Impact on Services Research, Peer Review

One of the more controversial aspects of the proposed transfer has to do with the location of mental health services research. The Senate bill would transfer statutory authority for such research with NIMH, but at the same time Kennedy indicated that "existing ADAMHA programs which have been labeled as services research but which have come to be relied on by the field as services"

would remain with the new service agency. This language is broad enough so that the final outcome vis-a-vis services research is likely to be determined administratively. The APS position is that most of the services research activities belong at NIMH.

Another concern is the impact of the transfer on NIMH's peer review system. The Senate bill

provides that the existing peer review system of NIMH will be transferred to NIH intact. Leshner told the APS Board that this arrangement will be in place for at least the next 18 months.

Speed Bump in the House

In contrast to many other federal initiatives, the revamping of ADAMHA is moving forward with lightning-like speed. Within a short time of the Administration announcement of the proposal, legislation was introduced in the Senate, hearings have been conducted, and it is likely that the Senate will act quickly to pass the bill.

However, the House of Representatives is sending strong signals that it will not be acting as quickly. House health staffers have indicated publicly that there is concern about the lack of study on what they consider to be a major administrative action. Privately, however, many believe that this posture is being taken because of other issues of contention between the House and Senate related to health research and health policies. S.B.



Frederick Goodwin will head NIMH within the newly restructured National Institutes of Health.

NSF FROM PAGE 3

recommending the establishment of a separate directorate for psychology and other behavioral and social science research disciplines. Others at NSF, although weakening in volume, are singing a different tune that has those sciences continuing to play second fiddle.

A Virtuoso Performance

The Task Force of outside experts, meeting four times over the last year expressly to consider the question of a separate directorate, concluded that "the scope of the present [Biological, Behavioral and Social Sciences (BBS)] directorate is far too broad to give sufficient attention to the social, economic and psychological sciences . . ."

Further, the Task Force, which was comprised of 12 biologists and 8 social scientists, said that "arguments against the separation, including the view that the social, economic, and psychological sciences (SEPS) need the biological sciences as a buffer to shield them from politically based criticism and the concern that a separation might hamper cross-disciplinary efforts between the two areas, were not compelling." All but one of the twenty members of the Task Force endorsed the recommendation for a behavioral science directorate.

Senator Kerry Joins In

The Task Force action is one of several recent events concerning the issue of a separate directorate at NSF. In May, Senator John Kerry (D-MA) introduced S. 1031, the *Behavioral and Social Science Directorate Act of 1991*. "I am introducing this bill to help solve the continuing problems of insufficient NSF funding for behavioral and social sciences," said Kerry. APS worked closely with Senator Kerry on this bill, which Kerry indicated is necessary "to stabilize behavioral and social science funding and to ensure that research and funding decisions will be made by those most familiar with the particular science."

The Same Old Jazz

In late May, the standing advisory committee for BBS discussed the Task Force's recommendation. "It was clear that most members of the group were reacting only to the recommendation and not to the substance of the Task Force's work," said Alan Kraut, APS Executive Director, commenting about the advisory committee's official position. The latter position had been developed by a group of seven biologists and one psychologist.

The committee has recommended the formation of yet another group — this will be the third — to further consider the

issue. The committee said it is concerned about the "fate" of fields which it said would be "fractionated."

"Those whose interests are with the status quo continue to portray this issue as a threat to interdisciplinary research. That argument has been rejected by the Task Force as unfounded, so although this sudden deep interest in the 'fate' of our sciences is gratifying, it is difficult to see the committee's position as anything other than a stalling tactic," said Kraut.

On June 20, the National Science Board (NSB), the oversight board for NSF, also discussed the Task Force recommendations. During the meeting, former BBS Advisory chair Peter Raven, director of the Missouri Botanical Garden, made a lengthy statement in favor of a separate directorate.

But rather than coming to a conclusion on the issue of a separate directorate, the NSB deferred to NSF Director Walter Massey. Massey in essence echoed the BBS Advisory Committee position that further consideration is needed. Massey expressed this view three days earlier in a private meeting with new APS President Gordon Bower and Executive Director Alan Kraut. During that meeting, Massey said that while he was convinced of the need to increase the visibility of behavioral science, he was not yet convinced that a separate directorate was the way to go. **S.B.**

NICHD FROM PAGE 26

disease and diet, exercise, the use of hormones, and smoking. Elsewhere, at the National Institute of Allergy and Infectious Diseases (NIAID), the Committee indicates strong support for NIAID's behavioral research activities, recognizing that many of the diseases that NIAID studies "can be prevented or partially ameliorated through behavioral interventions."

Noting that behavioral and social science research is a basic part of the mission of the National Institute on Aging (NIA), the Committee highlighted NIA research on behavioral and social factors that compromise the independence of older Americans; initiatives on minority aging that involve behavioral and social science research; and demographic research "to develop forecasts for the fiscal and societal impact from changing behaviors and population trends."

The Committee report noted also that the mission of the National Institute on Deafness and Other Communication Disorders includes "the special biomedical and behavioral problems associated with communication impairments or disorders."

Senate Action Pending

As the *Observer* goes to press, the Senate is having its turn at dealing with the FY 1992 budget for NIH and ADAMHA. APS has been working with the Senate Appropriations Committee to gain even greater recognition for psychology research. Watch future editions of the *Observer* for updates on progress. **S.B.**

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Normative Research on Minorities Urged at Child Institute

Behavioral Research Prominent In House Report

Behavioral research is a common topic in the fiscal year (FY) 1992 Appropriations Committee report recently issued in the U.S. House of Representatives, another sign that psychology research is gaining new ground even as Congress grapples with funding for the National Institutes of Health (NIH) and the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA). [See story below.]

Of particular significance, the House Appropriations Committee has indicated support for an initiative on normative research on ethnic minorities at the National Institute of Child Health and Human Development (NICHD).

APS, along with the Society for Research in Child Development, worked closely with Rep. Louis Stokes (D-OH), a House Appropriations Committee member, to obtain support for normative developmental research of ethnic minorities within NICHD.

Dispel Distorted Image

"Throughout the hearings," stated the House report, "the Committee heard from scientific societies and from the NICHD Director that there is a lack of knowledge about the normative developmental experiences of ethnic minorities. Most developmental research on minorities focuses on high-risk groups and only in the context of some problem such as poverty, lack of education, lack of health care, and other conditions — distorting the picture of development.

"While problem-focused research is important, the Committee believes it is also critically important to identify the general norms for various aspects of development in African American, Asian American, and Latino children and youth. Such research is



House Appropriations Committee Chair, William H. Natcher (D-KY) with APS Government Relations staff Sarah Brookhart (left) and Pat Branch.

needed both to establish a basis for comparison when evaluating the effectiveness of early educational interventions and other childhood programs, and to dispel the distorted image that results from this unbalanced research data base."

Greater Emphasis Seen at NIH

The House Appropriations Committee report emphasizes behavioral research throughout NIH. For example, a women's health study will look at the links between

SEE NICHD ON PAGE 25

ADAMHA, NIH Support of Psychologists' Research Targeted in APS Testimony

WASHINGTON, DC — Psychologists' research is not being supported by federal agencies on a par with its scientific merit or its role in addressing health and social concerns, APS Executive Director Alan Kraut told the U.S. Congress this Spring.

He made this statement in testimony to both the House of Representatives and the Senate Appropriations Subcommittees on Health and Human Services concerning the fiscal year (FY) 1991 appropriations of the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) and the National Institutes of Health (NIH). The Appropriations Subcommittees are where the first and often most important level of deliberations occur on the annual budgets for federal research agencies.

Kraut urged that Congress "continue to insist that ADAMHA and NIH support behavioral and social science research in a way that reflects both the role these sciences play in addressing our

nation's health objectives, and the urgency with which those objectives should be pursued."

Kraut also testified that the research training program at the National Institute of Mental Health "has diminished to a point where young investigators will be discouraged" from embarking on research careers in substance abuse or mental health.

Research Lags Despite Increased Need

In the past, behavioral and social science research often was regarded as ancillary to biomedical research at these agencies. This situation is changing. However, Kraut told the House and Senate that at ADAMHA, "many research grants programs remain narrowly focused on the biomedical aspects" of mental health and substance abuse.

CONTINUED ON NEXT PAGE

FROM PREVIOUS PAGE

"We are concerned that mental health research is being shortchanged in the proposed budget, particularly in comparison to other areas of research," he said.

At NIH, Kraut noted, funding of behavioral and social science research has lagged well behind its medical counterparts, despite strong congressional support in recent years for disease prevention and health promotion activities and in particular, studies concerning the interaction of health and behavior.

This is also occurring, he added, despite increased recognition by other federal health policy makers concerning the "prominent role of behavioral and social factors" in improving health status. As an example, he noted that James O. Mason, Assistant Secretary of Health and Human Services, recently reported to Congress that of the more than 200 national objectives set forth for promoting health and preventing disease, "the areas of greatest difficulty had their roots in behavioral and social issues, not just biomedical ones, including such issues as teenage pregnancy, low birthweight and illicit drug use."

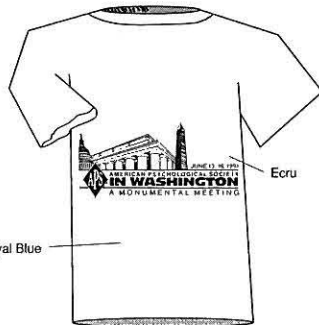
The remainder of the APS statement is summarized below.

National Institute on Mental Health (NIMH) — NIMH recently reorganized its Basic Science Division to include a greater emphasis on brain and behavioral research. APS is asking Congress to support the new Basic Brain and Behavioral Research Division by providing adequate resources to the division and by ensuring that the distribution of funds within the division is spread appropriately among the core research disciplines.

National Institute of Child Health and Human Development (NICHD) — Kraut presented this portion of his testimony on behalf of both APS and the Society for Research in Child Development. Both organizations recommended funding of initiatives involving behavioral and social science research in understanding and preventing health and developmental problems in children. These included preventable injuries, learning disabilities, day care, behavior and biology, normative research on ethnic minority children (see related story on page 26), and child maltreatment.

National Institute on Aging — The Committee's attention also was directed to several breakthroughs in aging, health and behavior, particularly the role of behavioral interventions in prolonging the healthy and productive lives of older people. APS's testimony noted that as the proportion of the U.S. population age 65 and over continues to grow, normative research is needed in order to develop assessment techniques for older adults; memory research is needed to enhance the older person's self-care and independent living abilities; social support research is needed to improve health and effective functioning; and Alzheimer's Disease research should be expanded to include investigations of the burden of care faced by the families of Alzheimer's patients.

National Heart, Lung and Blood Institute (NHLBI) — APS is asking Congress to ensure that the NHLBI accelerates its efforts in studying the effect of lifestyle changes in achieving positive health results. Given the proven connections between smoking or poor diet and health risks, NHLBI should provide Congress with a plan to expand both basic and applied research aimed at developing appropriate interventions to decrease health risks due to these and other harmful behaviors. S.B.



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Psychology from Sea to Sea

Summaries of the Spring Regional Meetings Across the Nation

Eastern Psychological Association

Sponsors Its First Press Conference

Doris Aaronson of New York University and Past-President of the Eastern Psychological Association (EPA), exited with kudos for imagination and wit after introducing Linda Bartoshuk of Yale University as incoming President at the April EPA meeting. Applying psychophysical laws to Bartoshuk's accomplishments, Aaronson illustrated with cumulative frequency distribution graphs Bartoshuk's leadership, publications, and cumulative record.

Said the AP Press reporter: "This was the cleverest speech I have ever heard."

An AP reporter attended Aaronson's address because EPA organized its first press conference designed to publicize psychological research at the New York City meeting. Reporters heard a tantalizing overview of research that included therapy methods designed to help people with ordinary as well as profound problems; an outline of developmental research that considers sex differences; information about timing behavior with the potential to unlock future biological secrets; and information that may refute current thinking about salt intake.

Press conference panelists included Alan N. Epstein, professor of Behavioral Neuroscience, University of Pennsylvania; Albert Ellis, President of the Institute for Rational-Emotive Therapy; Michael Lewis, professor of Pediatrics, Psychiatry and Psychology, and director, the Institute for the Study of Child Development at the Robert Wood Johnson Medical School, University of Medicine and Dentistry, New Jersey; and John Gibbon, Chief of

the Biopsychology Department, New York State Psychiatric Institute, and Professor of Psychology, Columbia University.

Epstein's research may yield new information about one public health hazard: **high salt intake**. Epstein explained that rats who were first salt depleted and then returned to a salt-sufficient diet experienced heightened avidity for salty foods. This was especially true for "females and more so for salt-depleted pregnant rats." More exploratory experiments are planned, but the implications to date are great. For example, a popular nutritional practice is to reduce children's salt intake. But that may be counterproductive, and perhaps, suggests, Epstein, "humans need an adequate salt diet to prevent excessive salt intake."

Describing **Rational Emotive Therapy (RET)** Ellis said the Institute clients receive a "philosophy" enabling them to change rigid thinking to alternative-seeking "preferred" thinking. Preferred thinking, said Ellis, is rational, which he defined as "self-helping and functional thinking. RET uses an intellectual technique applied in forceful, cognitive manner to help clients change," said Ellis. Unlike Freudians, "who believe many (psychological) disturbances occur from early trauma," Ellis theorizes that people are born with "strong biological deficiencies that prolonged therapy cannot help. We treat borderlines and psychotics to help them accept that deficiency, and we train them to function, but we don't pretend to cure them," he explained.

In contrast to Ellis, Lewis said it is a "mistake to believe that earlier events don't have an impact." Lewis' work is based on concerns about the effect of development on **human emotional life**. His 18-year longitudinal study has, he says, pinpointed "sex differences that may help the sexes explain their behavior to one another, something that is important as women try to change" sex stereotyping.

Research on **timing behavior** also may have long-range behavioral and medical implications. Gibbon, who studies animals and humans, reported: "We have identified a short-interval timing system with two major properties. The first is a one-shot timing system that needs to be initiated with a signal; once started, the system goes to completion and comes to a rest on its own. "You must restart the system if you want it to begin again," a process differing from the well-known circadian timing system, which oscillates freely without an external start-up signal. The heart is an example of a non-signalled system.

Another property of the short-interval timing system is scalar variance, meaning "the variance is multiplicative. So if you have variability around ten seconds, that doubles when you time 20 seconds. "But when you time long intervals, you will have larger variability," says Gibbon. Although this property permits timed intervals of many different durations, the penalty for flexibility is "increased variability since errors are rigidly tied to interval size."

Knowing whether a scalar or oscillator system underlies the timing of a particular behavior could be important for diagnosis in diseases that involve motor control. "In Parkinson's disease, some evidence indicates the errors a patient makes are produced not by a scalar system, but by an oscillator system," says Gibbon. An active research arena now exists around oscillator systems, and, says Gibbon, it involves "psychologists, neurobiologists, and behavioral ecologists."

Future research might even answer whether a person's time sense is as powerfully involved in behavior as are personality factors. Delaying gratification requires an ability to bridge a time gap, but, Gibbons speculates, if a person's timing system is poor, "they may act irrationally or impulsively and go for immediate small gains rather than delayed large gains." That has implications for dieting.

Eleanor Siegel

Midwestern Psychological Association

The Annual Meeting of the Midwestern Psychological Association (MPA) was held May 2-4 in Chicago, Illinois. Some 1,600 people registered for the convention and total attendance was estimated at 2,000 to 2,100. Participants were treated to a lively festival of addresses, talks, and symposia. Here are a few highlights:

Geoffrey Keppel's enthusiastically received Presidential Address, "Reflections on Design and Analysis," was a wide-ranging description of his intellectual history — from his undergraduate years at the University of California-Berkeley to the present time. He described some of his pioneering work on short-term memory, and on interference in memory, conducted with Benton J. Underwood, his mentor. His dynamic presentation was replete with anecdotes that illuminated the research process and punctuated a description of his odyssey into research methodology and statistics and his move into university administration.

A number of eminent psychologists provided invited addresses. Albert Bandura spoke to a packed audience on "Explorations in Self-Efficacy" in the annual I.E. Farber Lecture Series. Larry L. Jacoby's invited address, "Unconscious Influences and Automaticity: A Process Dissociation Framework," described an exciting new research technique for separating conscious from unconscious mental processes by placing them in opposition to one another. In other invited addresses, John P. Campbell spoke on "Work Performance," Lois W. Hoffman spoke on "The Influences of Family Environment on Personality," and John T. Cacioppo spoke on "Attitudes." Finally, on Saturday morning David Olton provided the final invited address on "Cognitive Neuroscience: Animal Models

of the Brain Mechanisms in Memory and Attention."

In addition to the invited addresses, the convention included a wide variety of invited symposia, other symposia, and paper and poster sessions on many topics. Numerous undergraduates participated in the Psi Chi sessions that were held. Division 27 of APA also provided a special program, as did the Council of Teachers of Undergraduate Psychology.

At the Business Meeting, Geoffrey Keppel became Past-President and Elizabeth Capaldi of the University of Florida assumed the Presidency, and it was announced that Henry L. Roediger, III, assumed the position of President-Elect. Rebecca Treiman, Program Committee Moderator, was congratulated on an outstanding program. Norbert Kerr will organize the program for the 1992 meeting which will be held in Chicago on April 30 to May 2, 1992.

Henry L. Roediger, III

Western Psychological Association

The San Francisco Bay Area was the setting for the Western Psychological Association's (WPA) 71st Annual Convention. The convention, held at the Hyatt Regency, Burlingame, from April 25-28, 1991, attracted 1,769 registrants, and featured 715 contributed and 52 invited presentations. Organized by Philip Zimbardo of Stanford University and Robert Pellegrini of San Jose State, the invited program included addresses by Mark Snyder: "Today's Good Samaritans: The Psychology of Volunteerism"; Claude Steele: "Minds Wasted, Minds Saved: Crisis and Hope in the Schooling of Black Americans"; Theodore Sarbin: "Narrative Psychology: A Personal History"; John Darley: "Forked Tongues: Conveying Multiple Messages to Multiple Audiences"; Daniel Kahneman: "Loss Aversion: What Grandmother Did Not Know"; David Rumelhart: "Model of Cognition:

An Update"; Joseph Campos: "The Importance of Locomotion for Psychological Development"; Alan Gevins: "Distributed Networks of Cognition in the Brain"; Sandra Graham: "Issues in the Psychological Study of African-Americans"; Roger Shepard: "Mind Sights: Pictures, Paradoxes, and Perception"; William Runyan: "Studying Individual Lives as a Fundamental Objective of Psychology"; Harvey Weinstein: "Beyond Mind Control: Lessons From the Slippery Slope of Patient Abuse"; and Edwin C. May: "Anomalous Cognition: Overview and Current Research."

Of special interest were Gordon Bower's Presidential Address on "Emotion and Social Perception," Joseph McNamara's (San Jose, CA, Police Chief) presentation on "Rambo and Gun Violence in America," and Allen Funt's delightful presentation of "A Retrospective Look at Candid Camera," in which he discussed the psychological lessons learned from placing ordinary people in extraordinary situations.

Student involvement in the 1991 Convention reached an all-time WPA high with 63 submissions by members of Psi Chi and 49 presentations at the Western Psychology Conference for Undergraduates which was held in conjunction with the WPA Convention. In addition to these presentations, 41 films were shown during the Film Festival organized by Frank Payne of San Jose State University.

At the WPA business meeting, Gordon Bower, 1990-91 WPA President, officially turned the leadership of the organization over to President-elect John Garcia. Bower also announced that James L. McGaugh (UC, Irvine), outgoing President of the American Psychological Society (APS), had been elected WPA President-elect. Bower, in addition to assuming the role of Past-President on the WPA Executive Board for 1991-92, has been elected recently as President of APS, replacing McGaugh.

The 1992 WPA Convention will be held in Portland, Oregon, April 30 to May 3. The invited program is being organized by Roger Jennings of Portland State University. The 1993 convention will be held in Phoenix, Arizona, and the 1994 convention will be held in Kona, Hawaii.

Don Pannen

Organizational Profile

Animal Behavior Society

ORIGINS AND PURPOSE

The Animal Behavior Society (ABS) was formed in 1964 as an outgrowth of the Division of Animal Behavior of the American Society of Zoologists and the Ecological Society of America. Its purpose is to promote and encourage the biological study of animal behavior in the broadest sense, including studies at all levels of organization, using both descriptive and experimental methods, under natural and controlled conditions. Both research studies and the dissemination of knowledge about animal behavior through publications, educational programs and other activities shall be encouraged.

MEMBERSHIP

The Society has more than 2,200 members with about equal representation from biologists and psychologists. The Society has very active participation from Canadian scientists. Annual membership fees are \$36 for Regular members and \$18 for Student members. Membership includes a subscription to *Animal Behaviour*, a monthly publication with more than 2,000 pages per year and to the *Newsletter of the Animal Behavior Society*, published quarterly.

The "Organizational Profile," a fairly regular feature of the *APS Observer*, informs the research community about organizations devoted primarily to serving psychological scientists and academics. It is difficult for anyone to keep abreast of the various organizations of potential personal interest. This section should help in that task. The Editor welcomes your suggestions as to organizations warranting coverage.

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BACKGROUND

ABS has from its outset stressed interdisciplinary interactions between psychologists and biologists. The elected Executive Committee is evenly divided between biologists and psychologists. ABS activities include an annual meeting with approximately 450-500 attendees.

In collaboration with the British Association for the Study of Animal Behaviour we co-publish *Animal Behaviour*, the foremost journal for animal behavior research. At the annual meeting we hold competitions for the best commercial and best amateur films on animal behavior, the best poster, and the best student paper (the W. C. Allee Award). This year's Allee Award winner is David Clark from the University of Cincinnati who studied the role of female visual perspective of potential mates in jumping spiders. ABS grants annual awards to support graduate student research projects. We have initiated a Career Award Program and made our first award this year to John Paul Scott as Distinguished Animal Behaviorist.

In addition, the Education Committee publishes a *Guide to Graduate Programs in Animal Behavior* and a *Careers in Animal Behavior* brochure. We have developed a Certification Program for Applied Animal Behaviorists. In addition we have active committees on Animal Care, Applied Animal Behavior, Ethics, Films, Membership, and Public Affairs.

ABS is affiliated with the International Ethological Council and joins in the biennial International Ethological Conferences. This year's conference will be in Kyoto from August 22-29. The 1993 Conference will be in Torremolinas, Spain, and the 1995 Conference in Honolulu, HI.

The Society will hold its 1992 annual meeting from June 13-18 at Queens University, Kingston, Ontario, and its 1993 meeting from July 24-29 at the University of California-Davis.

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Letters to the Editor

Classification Clarification

Dear Editor:

I read with interest the recent article in the May 1991 *Observer* [Vol. 4, No. 3], for which I was contacted for information. However, there were a couple of inaccuracies with respect to my contributions which I wish to publicly correct.

The following statement, attributed to me indirectly, requires clarification:

"... changes in the Library of Congress (LC) subject headings must be accommodated in any analysis" and "... there are new LC headings (based on the National Library of Medicine subject areas) covering the areas of psychiatry and the nervous system." The point to be made was that the 1989 *National Shelflist Count (NSC)*¹ whose purpose is to compare relative size of collections, broken down by subject, across institutions, reported National Library of Medicine statistics (including categories for medical aspects of psychology), whereas the 1985 *NSC* did not. This difference, in addition to the fact that all of the same institutions were not represented in both counts, reduces the usefulness of the *NSC* for comparative purposes.

The other statement attributed to me that I wish to clarify also pertains to the *NSC*: "some libraries intershelve their periodicals with their monographs. This would inflate the resource counts for those institutions." The important element here is the methodology for counting serials, rather than the individual libraries' patterns of shelving them. The main point I was trying to convey was that there may be discrepancies in the ways of listing, and thus measuring, serials *holdings* among the various institutions participating in the count. The preface of the 1985 *NSC* states: "Focusing on size alone can create false impressions about the quality of a library's holdings. Shelflist counts tell one nothing about range of imprint dates, completeness of journal runs, or language coverage to be found in a library collec-

tion. Size should be seen as just one of many factors that characterize a library collection."² This statement reflects the main objection I voiced to using the *NSC* to measure the quality of a subject collection, which was that the *NSC*'s purpose is to measure gross size of libraries' collections, rather than new additions to those collections. A library may have a very large collection in a given subject, but relatively few new acquisitions in that subject area, which is why meaningful comparison of the counts over the years is essential.

Ellen Sutton
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- ¹ *National Shelflist Count: Titles Classified by Library of Congress and National Library of Medicine Classifications 1989*. Urbana, IL: Library Research Center, The Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign, 1990.
- ² *Titles Classified by the Library of Congress Classification National Shelflist Count 1985*. Chicago: Resources and Technical Services Division, American Library Association, 1986, p.v.

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In Defense of Hertli

Dear Editor:

The vituperative attacks on Peter Hertli's March *Observer* letter in the May 1991 *Observer* could be interpreted as justified responses to an inaccurate letter, but I think not. I think the outrage was because Hertli hit too close to home. I can recall the philosophical climate in psychology during the late 1960s vividly. I know a man who later became President of APA who was almost unnerved by the prospect of using concepts like "awareness" and "consciousness" in a professional setting. I saw letters from prominent journal editors disparaging attempts by researchers to study conscious experience. The behaviorist paradigm, to the degree that it was accepted, *did* retard scientific progress — it declared that certain kinds of concepts and methods and research were off limits. Sadly, what Skinner and his followers declared to be off limits was the study of man's most distinctive attribute: his mind. To formulate a science of psychology without the study of consciousness makes about as much sense as formulating a science of history without studying the past, or a science of biology without studying life.

Miller's alleged distinction between Watson and Skinner is disingenuous as is Greenspoon's claim that Skinner did not place any events off limits. True, Skinner did not deny that mental events existed, but he viewed them as epiphenomena (non-causal by-products of bodily activity). At root, this is the same as denying them. In both views they are unworthy of study or theoretical status. If this does not put them off limits, then what does?

The tragedy of behaviorism was that its arbitrary philosophical assertions (e.g., rejection of introspection as a useful method, environmental determinism, epiphenomenalism) could be accepted as virtual dogma for so many decades by so many people. Like all dogmas, behaviorism failed in the long run because it did not work — behavior, above the level of reflexes and sense perception, cannot be explained without references to consciousness. That is why the cognitive paradigm, properly, now dominates the field.

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